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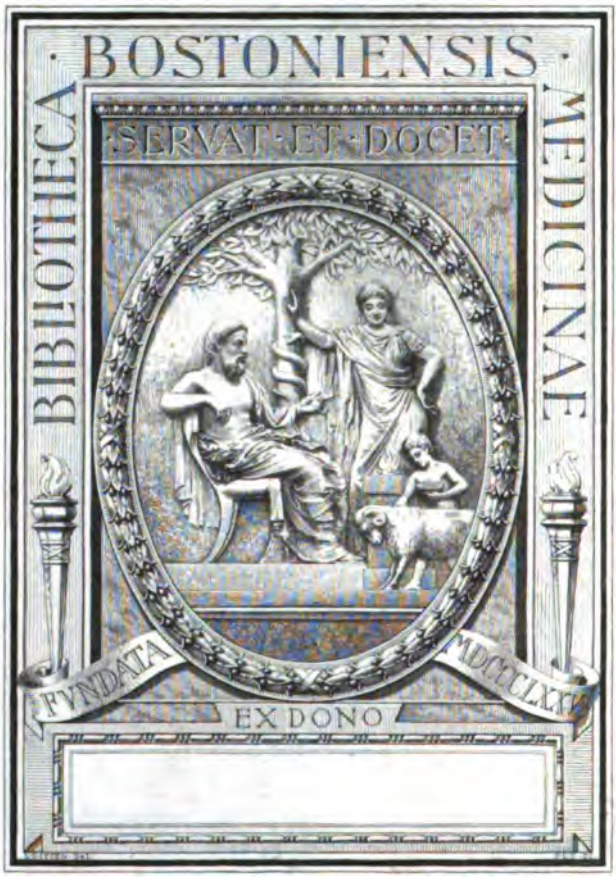
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Editorial.

The Creation of New Officials.

In this country to-day we are developing an organized system of government graft through the short-sighted passage of special and unnecessary laws which create new officials to be the tools of the machine.

Nothing whatever is gained by these laws. The issues involved can usually be evaded or compromised by a pecuniary transaction where real offenses are committed. The only man likely to resist a government detective or inspector in such cases is the one who is mistakenly or maliciously accused of infringing the law.

These special laws are responsible for miscarriages and travesties of justice, they increase the burden of tax-payers, rob the man who fills such a place of his natural incentive to healthy development, expose him to the corrupting influence of bribery and do nothing whatever to improve the conditions at which they are aimed.

The common law of the land is ample to punish frauds of any sort and offenses against public policy, so far as law can do it. It is absurd to suppose that a special law will accomplish what in its very nature law is incapable of doing. Education and a stronger sense of individual responsibility are the only possible means of ameliorating abuses. It is a false notion to suppose that we can get rid of evils by legislating somebody to take the trouble of them off our hands. An intelligent public opinion fearlessly expressed is the best deterrent. The common law provides penalties for overt acts.

As every government grows older it becomes more complex and gets further away from the ideals and principles on which it is based. One thing we are prone to forget and that is that a republic is just as open to the evils which beset all governments as monarchy. The difference is merely one of name. Vigilance is just as much the price of liberty with a free people as any other.

Few people realize at what a fearful ratio new officials are made with every sitting of our legislatures. Americans do

not realize the tremendous responsibility incurred by a self-governing people. Absorbed in their private affairs they turn the government over to machines and grafters, who multiply laws and offices for their own benefit in an impossible effort to accomplish what can not be done by law.

The mischievous activity of legislative bodies is something that ought to be stopped. The best thing that could happen to America would be a Rip Van Winkle sleep for them all, state and national.

The worst thing that can happen to a man is to make him a salaried official. He is placed in a false position, set to do work of a mean and petty sort, draws just enough pay to satisfy his material wants and becomes a hanger-on, the tool of a system. His life is such that he is bound to sacrifice all his ideals and aspirations and content himself with existence on a low and cynical plane. Such a position will ruin any young and generous nature.

Take a doctor who has a fair practice and elect him to the legislature or give him a position on a board of health and it will injure him as much as his worst enemy can desire. If left alone, he will become thoroughly self-reliant, master his business and always be able to earn a competency. The politician is a dependent, a parasite, a schemer, relying on the arts of intrigue to keep in office.

An office-holding class is bad for the community and bad for the individual. Nevertheless officials are multiplying at a fearful rate, and unless the American people wake up and call their representatives to account for this pernicious activity we shall be fairly over-ridden with an unproductive and mischievous class which devours our substance without making any adequate return, to their own detriment as men and citizens.

Decrying American Products.

The effort made in certain quarters to decry the products of American chemists and to praise German patent medicines is so manifestly unfair, that the "nigger in the woodpile" can be plainly seen. Do these fellows do this of their own accord or are they hirelings?

Think.

Work and Rest.

All men know there is a time to work and a time to rest. Unfortunately in the case of the doctor all his work usually comes at once and his resting spells occur at a time when his pocket-book is emptiest and he is wondering how in the world he shall fill the flour barrel.

It seems part of the perversity of life that we should have things lavished on us when we least need them and be denied when we do. About the only consolation we can get out of this is to believe that life is a school for character and that discipline is essential to bring out the reserves of the strong and to fortify the feeble.

The old saying that "It never rains but it pours" and "All signs fail in dry weather," show Nature's dislike for moderation notwithstanding the constraint of law under which she operates.

Nevertheless man recognizes that law must subdue and regulate force and that the golden mean in all things must sooner or later, be established. In the meantime, the alterations which are sometimes prolonged to the limit of endurance are best met with cheerful philosophy and confident expectation that the darkest hour will give way to dawn as it always has done and in the nature of things must do.

Bossism.

This is an age of bosses in almost every walk of life, and through the recent insurance investigations the public have learned something of the way their funds are used to build the private fortunes of individuals. There must be some logical explanation of this condition.

The American doctrine of "a square deal for every man" gives all citizens an equal chance for life's highest prizes, and causes the keenest competition in our work-a-day affairs. No other country offers such rich rewards for industry and inventive genius, and it is the resulting hurry of business and professional life, we believe, that is responsible for the frequent attitude of seeming indifference toward the attempts of self-seeking grafters to control politics and medicine, and other branches of our national life. But all would-be bosses ultimately fail. It

has been the salvation of our nation that the power of public sentiment, when aroused, is strong enough to meet every emergency.

A certain clique is at present making an effort to boss the physicians of this country and prevent independent thinking. Will you submit to the dictates of these self-appointed leaders, or will you remain your own master and continue to treat your patients as common sense and experience have demonstrated to bring the best results?

It pays to be independent. The Editor of the MEDICAL BRIEF has always believed in "speaking out in meeting," and the fact that the year 1905 has been the most prosperous in our history is proof that our policy is gaining new friends every day.

The schemers who are trying to work the medical profession are boastful in their supreme confidence of success, but we believe it would be the part of wisdom for them to heed the handwriting on the wall.

[Written for the MEDICAL BRIEF.]

A Plea for Wider Instruction on Dental Matters.

BY G. S. JUNKERMAN, A. M., M. D., D. D. S.,

Dean of The Cincinnati College of Dental Surgery; Professor of Operative and Comparative Operative Dentistry in The Cincinnati College of Dental Surgery; Fellow of the Cincinnati Academy of Medicine; Member of the Ohio State Dental Society; Member of the Northern Ohio Dental Association; Member of the National Dental Association. Cincinnati, Ohio.

What shall we do for caries at the early age of childhood? In reply to the above question, I can only say that very little can be done. Filling is almost an impossibility in the case of very young children, and when accomplished the results are only temporary, owing to the incompleteness of the operation.

It is our duty as doctors to administer what comfort we can, and there is no condition so bad but that some improvement is possible. These deciduous organs, though of little service for mastication, have their redeeming feature in that they secure a proper eruption of the permanent organs.

The pain experienced by these little patients is caused by the exposure of the pulp, and is not, as a rule, the result of inflammation or ulceration, the latter being a more common accompaniment of odontalgia in the permanent teeth.

The pulp of these deciduous teeth is large and possesses a low order of vitality. A strong application of carbolic acid being all that is necessary to bring about their destruction. In this way the pain is relieved and no bad results occur from this mode of practice. This method is pursued, of course, only where all chance of filling is excluded and when it is desired to retain the root of the tooth, which is of value for secondary dentition. The infant mind does not analyze pain or its location; it knows only that the act of mastication gives pain and the result is that the food is either swallowed without mastication, causing indigestion, or total abstention from food, with its consequent inanition.

From the sixth year to puberty the teeth require constant watching and attention. During this period we are able to prevent many irregularities and deformities which would be difficult of treatment at a later period. Thorough examination of the teeth should be made during this period at least four times a year, and oftener, if necessary. The child is father to the man, and as the child is so will be the man. If we have a perfect child we may safely look for a perfect man. Without sound dental organs there can not be perfect digestion, nor perfect health. Early attention to the teeth not only saves many painful hours, but is one of the most powerful factors in the make-up of a sound body. The wise and scientific dentist can do much with an unenlightened multitude, but it is only when parents are thoroughly aroused to the importance of taking proper care of their children's teeth that the best results can be hoped for. Early attention and constant attention to the teeth of the child will make mechanical dentistry a thing of the past.

At present too little space is given to this most important subject in the text-books in use in our public schools. Whole

pages are devoted to many physiological subjects and but a line or two regarding the care of the teeth. As a remedy I would advise that instead of lines, chapters should be introduced into our school text-books containing sufficient knowledge of this subject to enable children to talk intelligently regarding their teeth and their care. The dentist should lose no opportunity to increase the knowledge of his patients. There should be a family dentist as there is a family physician. Medical societies should take action in this matter, and the physiologists would be only too glad to incorporate such information in their text-books. When this is done we can practically obviate the diseases following caries.

231 West Court Street.

[Written for the MEDICAL BRIEF.]

Malaria.

BY J. A. BURNETT, M. D.,
Cecil, Ark.

It is claimed by many physicians that quinine is a specific for malaria. But this is a mistake, and not only is it known to all close-observing physicians, but to the laity in all malarial districts.

Quinine is of value in acute forms of malaria, when the secretions are free, and it is preceded by a cholagogue; provided, the temperature is normal or the fever declining, and the patient tolerates the action of it. It can be given by mouth or used externally. If given by rectum it is likely to irritate, and it should never be given hypodemically, as it is not safe to use it this way. When given by mouth it is usually best to give it in solution, combined with an acid, or if not given in solution it is usually best to combine it with capsicum, especially if given to keep off an approaching chill, or if the pulse is weak. When used externally it can be combined with hot goose oil or coal oil. If coal oil is used care should be taken not to use too much, and see that it does not irritate the skin. It can be mixed with lard, provided it is thoroughly rubbed in. Heat must be applied in rubbing it in.

The best place to use it externally is over the lower part of the abdomen, between the thighs and under the lower parts of the arms.

When used by rectum it must be combined with some remedy in order to keep it from causing irritation.

It is often best to add a small amount of acetanilide or gelsemium to each dose of quinine, especially if the patient has fever, in order to prevent the untoward head symptoms which it usually produces.

When prescribing it for pregnant women it should be combined with some opiate or bromide of potassium.

Cornus florida can be used for patients where quinine is indicated, but can not be tolerated on account of the head symptoms, or rash, it occasionally causes. Heat destroys the action of cornus florida, and when using it be sure to use a reliable preparation which is made by some reliable pharmacist. Specific cornus or normal tincture is reliable, and can be depended upon.

When the secretions are not free sabbatia angularis is of value in malaria. It acts very much like gentian, but milder, and is tolerated better by the stomach than gentian. It sustains the nervous system and increases the appetite. Dose of fluid extract of sabbatia angularis, thirty to sixty drops every three hours.

During convalescence euonymus is often indicated, especially if the patient is in need of a liver stimulant, or is prone to be "bilious."

In the chronic forms of malaria, when the spleen is enlarged, grindelia squarrosa and polymnia uvedalia are the leading remedies, and either one can be used with any other remedy which seems indicated.

In the treatment of malaria the system should not be abused by cathartics, especially if the patient is not of a robust constitution.

Mild hepatic stimulants, without catharsis, with high rectal injections, will be sufficient to clean out the alimentary canal and remove "biliousness" and constipation.

Malaria, as well as all other diseases, should be treated by milder means in future than is the custom at present.

THE MEDICAL BRIEF

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[Written for the MEDICAL BRIEF.]

Clinical Notes on Pneumonia.

BY WILLIAM MURRELL, M. D., F. R. C. P.,
Physician to the Westminster Hospital and Lecturer on Clinical Medicine; Examiner in the University of Aberdeen.
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Acute lobar penumonia is a fairly common disease, the symptom-picture of which is readily recognized. The patient is usually a man who gives a definite history of exposure to cold and wet. The onset is sudden, there is a rigor of some intensity, the temperature is 103° or 104° F., the pulse rate one hundred and twenty, whilst the frequency of respiration is notably increased. There is acute pain in the side, not from inflammation of the lung itself, but from the accompanying pleurisy. The patient feels very ill and readily takes to his bed; the face wears an anxious expression and is flushed, often only on the side corresponding to the seat of the disease. The cough is short and hard, and the expectoration, at first absent, is soon "rusty" or "green-gage" in character. The skin is dry and pungent, thirst is a prominent symptom, and there are pains in the limbs. There is also a rash, the labialis or herpes facialis. It is usually seen on the upper lip, either at the angle of the mouth or just under one or other nostril, but it may be on the cheek, chin or jaw. It is said that the patch of herpes is usually on the same side as the lung involved, but this is not always the case. In double pneumonia there may be double herpes, but this is not an invariable rule. Inequality of the pupils is not uncommon in pneumonia, the dilated pupil being usually on the affected side. The dilatation of the pupil is due to irritation of that portion of the sympathetic which acts as the pupil dilator. Commonly the herpes and the dilated pupil are on the same side, but here again exceptions are not uncommon.

Herpes labialis is not peculiar to pneumonia, and often occurs as the result of a febrile cold or of gastric disturbance. Herpes is attended with elevation of temperature, and it is not always easy to distinguish herpetic fever from pneumonia fever. Cases are from time to time seen of reputed pneumonia without physical signs, there being a sudden onset, a sharp rise of temperature, with termination by crisis and other symptoms closely simulating pneumonia. It will be found in most of these cases that herpes labialis is present, and that they are examples of herpetic fever. It is not, however, every case of herpes which is attended with elevation of temperature. We recently had in the wards a girl, aged eleven, suffering from Todd's paralytic chorea, whose temperature, taken every four hours, was always normal. She developed herpes on both sides of the lower hip, which lasted seven days. There was no pneumonia and

there was no disturbance of temperature. The herpes in inflammation of the lungs sometimes makes its appearance on the tonsil and pharynx, and I have known a case of this description in a child diagnosed as tuberculous meningitis.

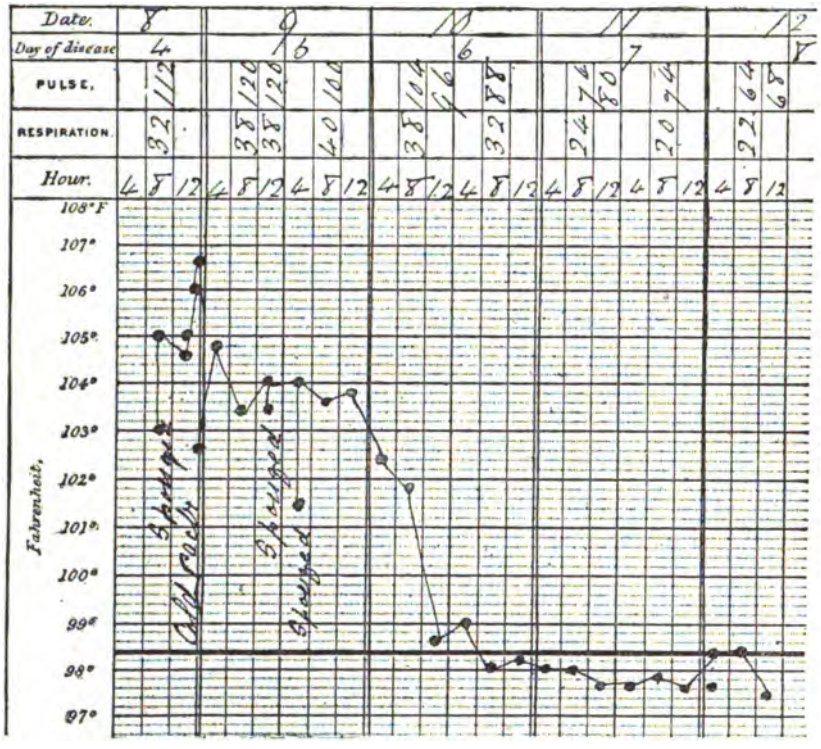

CHART I.

An attack of acute lobar penumonia usually terminates by crisis, indicated not only by a sudden fall in temperature, but by an attack of diarrhea or profuse sweating, and a subsidence of all the acute symptoms. The critical period is said to be the fifth day, but the statistics of the Westminster Hospital show that it is commoner on the sixth day than on the fifth, and still more frequent on the seventh. As a matter of expediency it is safer to prognosticate that the crisis will be about the eighth day, beyond which it is not likely to be postponed. In termination by crisis there is not uncommonly a pseudo-crisis, or temporary fall in temperature, before the actual crisis, and a post-critical rise is frequently seen. When the termination is by lysis it is spread over a couple of days or more, usually the seventh and eighth. The accompanying collection of charts will serve to illustrate the course of the mode of termination in cases of acute lobar pneumonia:

Chart I.—Shows termination by crisis on the sixth day of the disease.

Chart II.—From a child nine months old, also illustrates termination by crisis on the sixth day, but the fall in temperature is more abrupt than in the previous case.

Chart III.—Illustrates the course of the temperature in a child aged five and one-half years, who had been ill for two days before admission. She had a plentiful crop of herpes on the face and lips and the physical signs were scrappy dullness, with fine crepitation over both lungs. It will be seen that the crisis was on the seventh day.

Chart IV.—Is from a case in which the crisis was delayed until the tenth day. The patient was a man, aged thirty-one, who was admitted on the sixth day of illness. There was no history of exposure to wet or cold, and there was no critical

vigor. The symptoms were severe pain in the left side of the thorax, headache, cough and expectoration of thick, viscid, rusty sputum. The base of the left lung was consolidated. The patient made a good recovery.

Chart V.—A female child, aged eight months, was admitted to the hospital suffering from acute lobar pneumonia, the physical signs being dullness, with increased bronchial fremitus and tubular breathing over the upper lobe on the left side. The temperature during the first week was always at some period of the twenty-four hours over 105° F., the highest record being 105.8° F. During the second week it was slightly lower, the diurnal range being from 102° to 104.8° F. The temperature was taken every four hours and there was no indication of a crisis until the seventeenth day of the illness, when the temperature fell suddenly, and the patient made a speedy recovery.

Chart VI.—Shows the mode of termination by lysis.

With regard to the bacteriology of the disease, Fränkel's pneumococcus or diplococcus is the essential organism. It is commonly spoken of as the diplococcus penumonia, but the term streptococcus lanceolatus is sometimes used. It is not always pathogenic, and is present in the saliva and usual secretions of many healthy people, and also in the normal vagina. As a rule, it exerts no morbific influence, but when the resistive powers are lowered by exposure to cold or wet, or other depressing agencies, it attacks the lungs, and the patient gets pneumonia. The microscopical examination of sputum for determining the diagnosis of suspected pneumonia

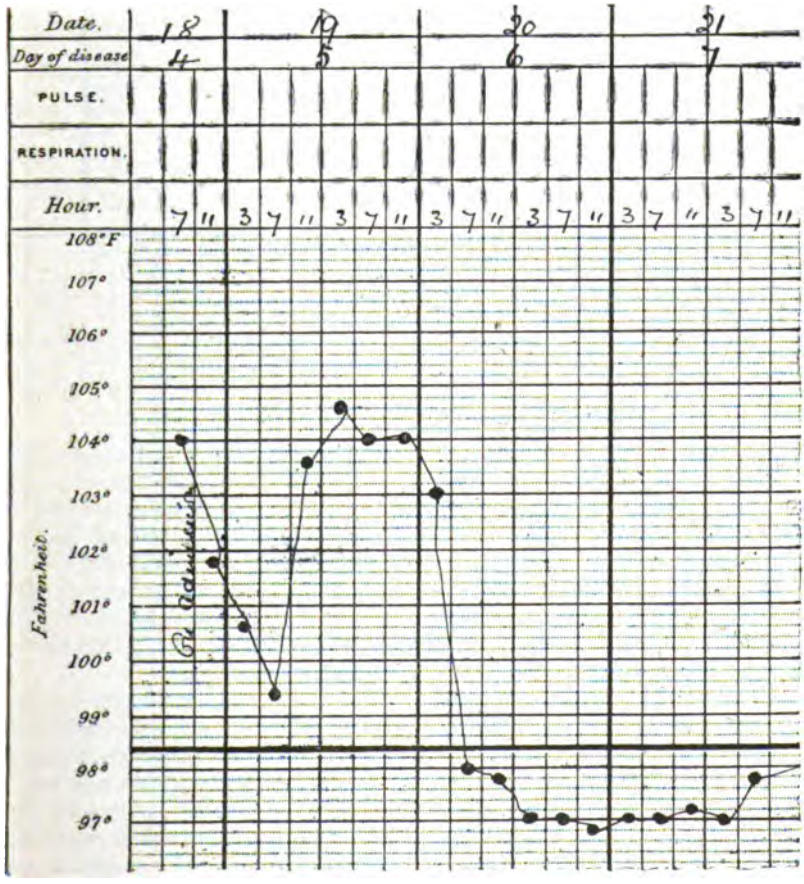

CHART II.

is not absolutely certain, for the observation is complicated by the fact that diplococci are frequently present in the mouth in large numbers. When pneumococci are

companies pneumonia is pneumococcic in origin. It is now recognized that the diplococcus may enter through the lungs and produce remote effects without caus-

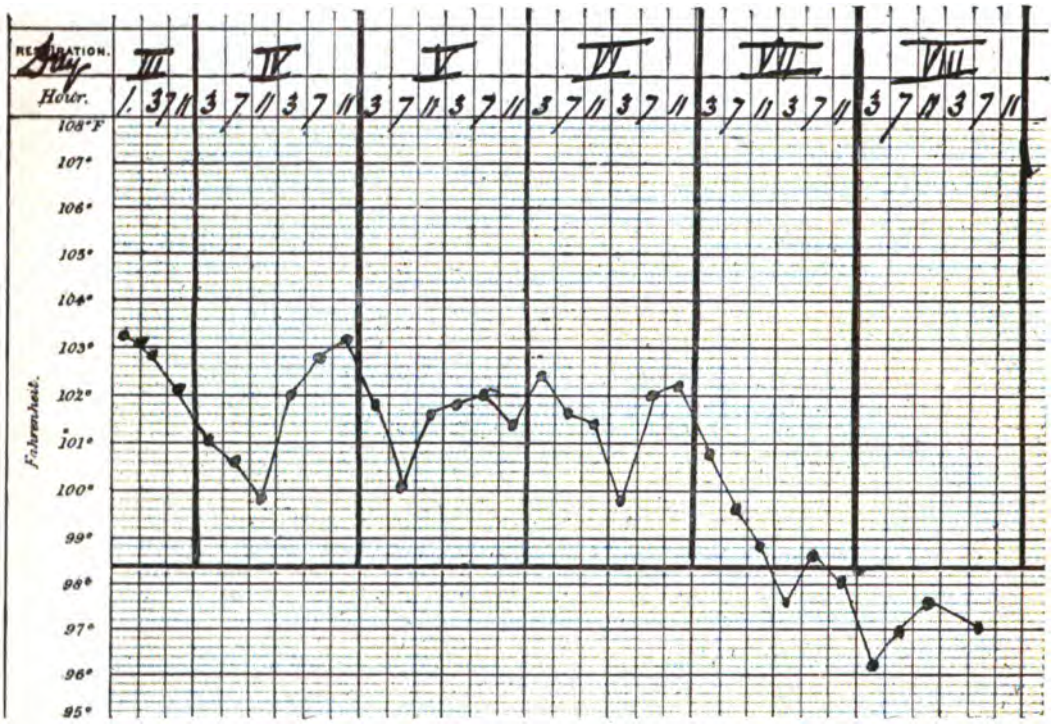

CHART III.

obtained from the mouths of healthy individuals the virulence is not so high, nor can it be so easily increased as when they are derived from pathological lesions. A more trustworthy test is that afforded by inoculation, for the oral diplococci, if present, are usually too few or not sufficiently virulent to produce effects. Moreover, diplococci are not uncommonly found in the lungs of healthy persons. Fränkel's pneumococcus is responsible for a good many morbid manifestations. In addition to acute lobar pneumonia, it may give rise to pneumococcic arthritis, often mistaken for acute rheumatism, to pleurisy and empyema, endocarditis and pericarditis, salpingitis and peritonitis, otitis media with celluitis and the formation of multiple abscesses, meningitis, and urethritis.

Pneumococcic tonsillitis is a condition often accompanied by rusty expectoration, a point worth remembering in connection with diagnosis. The pleurisy which acing pneumonia. Friedländer's penumobacillus is not the essential cause of pneumonia, although frequently found in connection with it. It does not stand in the same relation to pneumonia that the tubercle bacillus does to phthisis, although in some cases of pneumonia Friedländer's bacillus is present whilst Fränkel's pneumococcus is absent.

Weichselbaum, of Vienna, as a result of an examination of one hundred and twenty-nine case of pneumonia, found Fränkel's diplococcus in ninety-four, and Friedländer's pneumococcus in only nine. It is probable that several varieties of pneumococcus exist. Foà described two distinct varieties. One he calls simply the pneumococcus, whilst the other he names meningococcus. He found that rabbits immunized against the pneumococcus were not immunized against the meningococcus, and *vice versa*. Various strains of pneumococci differ much in their virulence.

Certain lesions will occur with some varieties and not with others; for example, with some broncho-pneumonia is produced, whilst with others acute lobar pneumonia.

There is often a mixed infection, and in some cases classed as pneumonia, streptococcus pyogenes and staphylococcus pyogenes aureus have been the prevalent organisms. Other organisms found in connection with pneumonia are those characteristic of influenza, enteric fever and diphtheria. In an outbreak of epidemic pneumonia at Middlesborough, Klein was unable to discover either the diplococcus of Fränkel or the pneumococcus of Friedländer, but found instead a distinctive bacillus, a mobile rod-shaped microbe. It

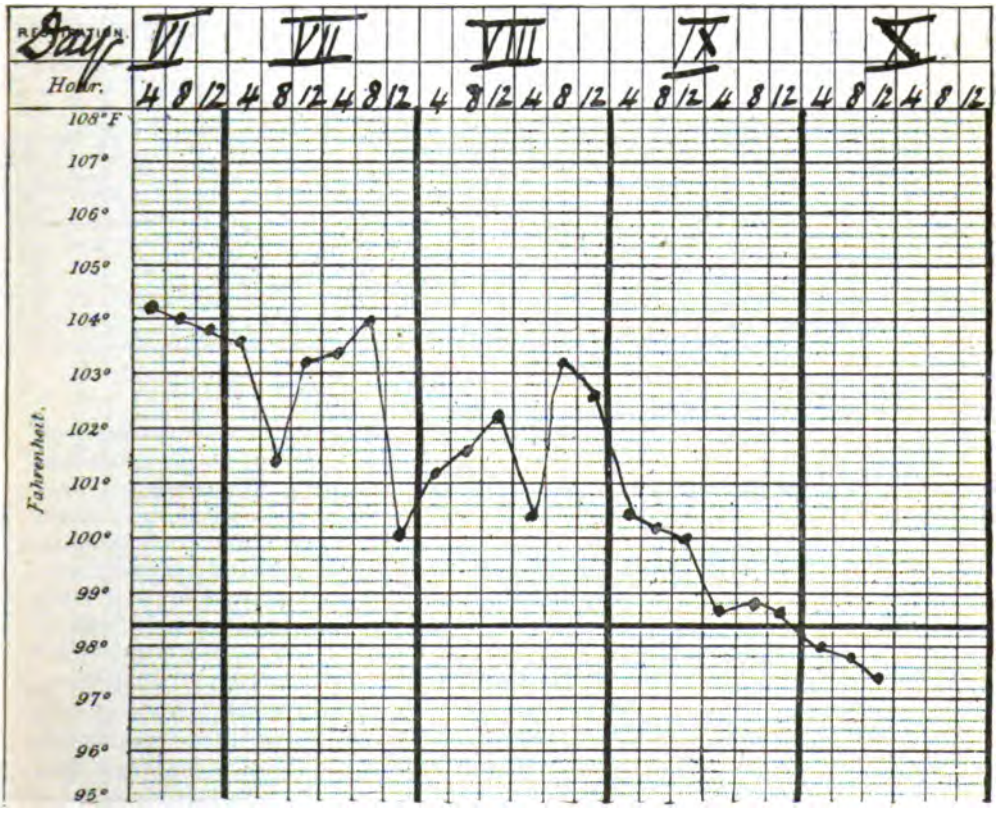

CHART IV.

is clear that whilst one organism is most frequently found associated with pneumonia there are others capable of producing a closely allied, if not identical, condition. It is often said, "no pneumococci, no pneumonia," but it is doubtful if this statement is correct. In an apparently typical case of acute lobar penumonia recently in the wards, the rusty, viscid expectoration was examined many times, but no diplococci were found. It is possible that cocci may have been present in some of the expectoration, but they were absent in the specimens examined. A similar experience is met with in phthisis, for although there may be abundance of bacilli in the lungs the specimen examined may have come from the larynx or nasal passages.

The treatment of sthenic pneumonia presents many points of interest. The patient is knocked down by the severity of the blow, and readily takes to his bed, it being rare to meet with "ambulatory" cases, such as are seen in enteric fever. If the tongue is foul it is a good plan to begin with a dose of calomel, three grains for a private patient and ten grains in

hospital practice. The diet should consist of three pints of milk—five ounces every alternate hour—or two pints of milk and one of beef tea in the twenty-four hours. shows signs of failing, two drachms of freshly-prepared infusion of digitalis every four hours, or a hypodermic injection of one-twentieth grain of strychnine, will do

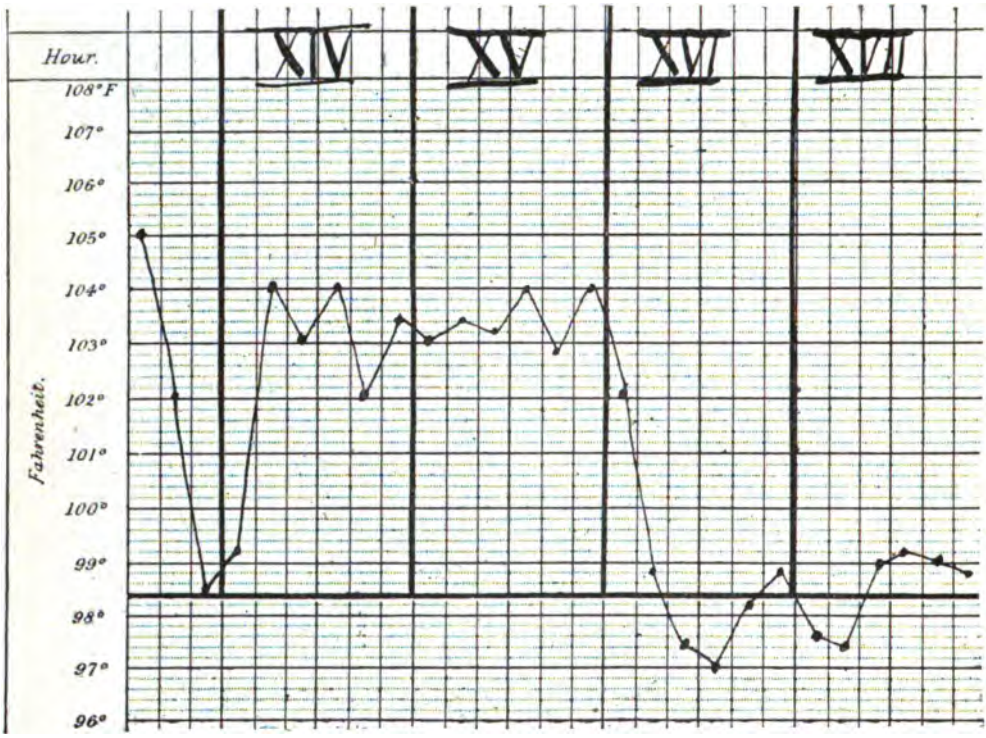

CHART V.

If there is no expectoration, or if it is scanty and viscid, three drops of antimonial wine may be given every two or three hours. The antimonial treatment is indicated chiefly in the very early stage of the disease, when the skin is hot and dry, and the expectoration tenacious. After the first twenty-four hours five grains of carbonate of ammonium may be given in milk every four hours. In cases of delayed resolution, five grains of carbonate of ammonium, ten grains of chloride of ammonium, and five of iodide of potassium, every four hours in an ounce of water flavored with a drachm of liquid extract of liquorice and fifteen minims of spirit of chloroform, will be found useful. If the pain in the side is acute, linseed meal poultices, hot fomentations, equal parts of extract of belladonna and glycerine, the liquor iodi fortis, or a chloroform poultice, may be applied. If the heart good. When there is much dyspnea with commencing cyanosis, copious inhalations of oxygen usually afford temporary relief. If the crisis is unduly delayed, a single dose of an ounce of Warburg's tincture, either by mouth or rectum, may determine it. Stimulants usually have to be given freely, and old liquor brandy will be found the best, the ordinary "three star" being of little value for this purpose. Very old brandy, which consists of various forms of ether and is of comparatively low alcoholic strength, commands a high price, and the 1823 and 1821 vintages are not readily obtainable. Champagne is another good form of stimulant, but it must be of some age and standing, for immature wine is of little value. Delbeck 1893 is a light champagne, and I have often given a bottle in the twenty-four hours when the pulse is weak and run-

ning. The ordinary half-bottle of champagne holds thirteen ounces.

The treatment of pneumonia by means of an anti-pneumoccocic serum hardly falls within the range of practical therapeutics. The late Dr. J. W. Washbourn was the first to immunize a horse, and to obtain sufficient serum for the treatment of cases of pneumonia. The serum was of such potency that three-one hundredths cc., when mixed with ten lethal doses of living pneumococci and the mixture injected into the peritoneal cavity of a rabbit, prevented death. Several cases of pneumonia were treated with the serum with satisfactory results, but subsequent observations showed that clinically it was of little value. Mennes obtained a protective serum from horses and Pane one from donkeys, but they have not come into general use. It is probable that they are antibacterial, but not antitoxic.

SECONDARY OR INTERCURRENT PNEUMONIA.

This form engrafted on some other pre-existing disease is more common than the acute lobar form. It may supervene insidiously on various disorders, such as influenza, diphtheria, enteric fever, smallpox, erysipelas, and puerperal septicemia. In these cases the symptoms are but slightly pronounced, and the inflammation steals upon the lung and does irrevocable injury without giving any notice of its presence except such as may be gathered by a careful and systematic examination of the chest. It is not a common accompaniment of bronchitis, phthisis, or pleurisy, but it frequently ends the scene in carcinoma and chronic affections of the kidneys and of the nervous system. Some forms of secondary pneumonia run a very indefinite course. A woman aged fifty-two was admitted with a history of a recent attack of influenza. There was dullness at both bases, with fine crepitation and

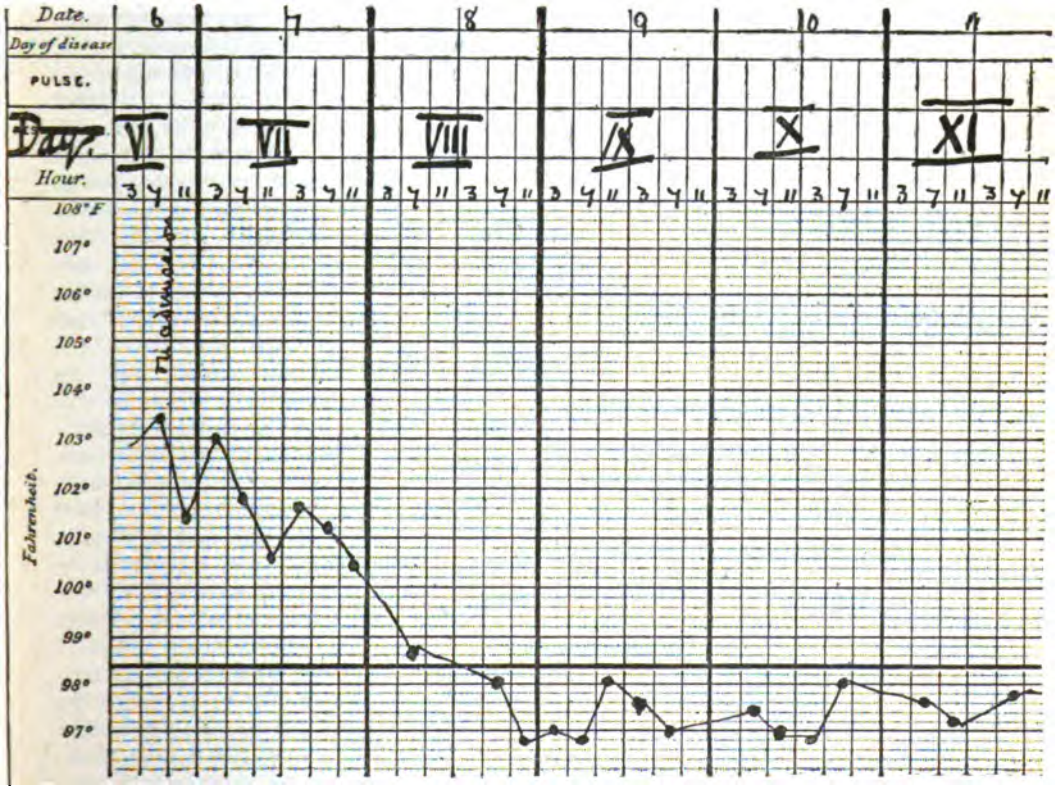

CHART VI.

tubules breathing. There was little cough and the expectoration was not rusty. No pneumococci were found. The temperature reached 101° F. in five days and then gradually subsided. The pulse was one hundred and the respirations were thirty-six. There was no crisis and convalescence was slow. Influenza in some epidemics is commonly accompanied by pneumonia, and this was the case in the outbreak in 1889-90. The soil of the influenza bacillus appears to be favorable to the growth of the pneumococcus. Pfeiffer's bacillus may be found alone or in association with pneumococcus or streptococcus pyogenes, or both. The type of influenzal penumonia is broncho-penumonic with acute interstitial changes. There is no initial rigor, and expectoration may be absent, or, if present, of the muco-purulent rather than the rusty variety. The physical signs may not be detected for some days, and the dullness is usually patchy or scrappy, and not confined to the base or to one lobe. Not uncommonly there is a gradual diffusion of the inflammation throughout the whole of one or both lungs. These cases are prolonged and tend to terminate by lysis, rather than by crisis. Prostration is a prominent feature, and alcoholic stimulants have to be administered freely. Death not infrequently supervenes at an early stage of the disease.

Enteric pneumonia is another common form of secondary pneumonia. In every case of pneumonia it is necessary to consider whether the disease is primary or secondary, and if secondary if the primary disease is enteric. It makes all the difference, not only in prognosis, but in treatment. I have known a patient treated for acute lobar pneumonia for days without the slightest suspicion that it was secondary to typhoid fever, and that at a stage when there was a characteristic roseolar rash on the abdomen. The patient had been fed on chops and steaks, and died of perforation. Some cases of enteric fever practically begin with pneumonia; that is, the symptoms from the first are those of inflammation of the lungs, and it is not until later that the true nature of the disease is suspected. In case of doubt it is essential to diet the patient on the supposition that he has enteric. An acute pneumonia will do well on three pints of milk a day, whilst an enteric case will certainly do badly on a solid dietary. In many cases of enteric the symptoms of pneumonia are not observed until the second or third week, and even then the pain and rusty expectoration are commonly absent. Frequently the complication is recognized only by the dyspnea, the increased elevation of temperature, and the by no means pronounced physical signs. In the majority of cases the pneumonia is pneumococcic in origin, but in others the enteric bacillus is detected in the expectoration, and sometimes in addition streptoccoci are found.

It is interesting to note that secondary penumonia follows some cases of poisoning. The following case of oxalic acid poisoning, under my care, illustrates this point:

A tailor, aged fifty, was brought to the hospital by the police on December 6, 1904, at four P. M., having been found in the street collapsed and vomiting. He stated that half an hour previously he had swallowed in tea two pennyworth of oxalic acid—probably about two ounces—with suicidal intent. He had been partly paralyzed on the right side for four months, had been long out of work, and had been tramping the streets in search of employment. He had been without food for twenty-four hours, but during the morning had had three pints of beer. He was seen in the casualty room by the house physician, who gave him large doses of saccharated solution of lime as an antidote, and then washed out the stomach with a solution of carbonate of lime, until the fluid returned clear and free from odor. The diagnosis was established by the presence of oxalate of lime crystals in the vomited matter, and subsequently in the urine. On admission to the wards he was in a condition of collapse, his temperature being below 95° F. He was given at frequent intervals hypodermic injections of strychnine. He vomited a little blood, but there was no diarrhea, and the mucous membrane of the mouth was not excoriated. On the following day the temperature gradually rose from 98.2° to 100.8° F., and the pulse respiration ratio, taken at intervals, was one hundred and twenty to twenty-four, one hundred and twenty-five to twenty-six, and one hundred

and forty-eight to thirty-two. His lips were swollen, he complained of sore throat and difficulty of swallowing, and there was much tenderness in the epigastrium. He was too ill to be examined thoroughly, and hypodermic injections of morphine were given to allay the pain. On the 8th there was a similar variation in temperature, which rose from 98° F. in the morning to 100.8° F. at night, the pulse-respiration ratio being one hundred and fifty-six to thirty and one hundred and forty-six to thirty-two, and the pulse small and soft. There was very little cough and no expectoration. The urine was of specific gravity 1010, was acid and free from albumin. It contained spermatozoa in large numbers. On the 9th the temperature at four A. M. was 97° F., at four P. M. 99° F., after which it gradually fell. The pulse-respiration ratio was one hundred and thirty-eight to thirty-six and one hundred and forty to forty-two. At the right base posteriorly there was some dullness, and the breath sounds were bronchial. There was much tenderness over the abdomen, but there was no blood in the motions. The knee-jerks were brisk, the right being exaggerated; there was no ankle-clonus. On the morning of the 10th, the temperature was 96.6° F., the pulse was one hundred and twenty-four, and the respirations were twenty-six. He vomited after taking a little barley and albumen water, and died at 12:10 on the morning of the 11th, having survived the dose one hundred and four hours.

At the autopsy it was found that there was some congestion of the pharnyx, and the mucosa of the esophagus, especially in the lower part, was swollen and of a dark red hue, with well-marked superficial veins. All the coats were thickened. The mucosa of the stomach were thick, soft, velvety and smooth. There were no signs of ulceration anywhere, and there was no gangrene. The intestinal tract was normal. The lungs showed pneumonic consolidation of the right lower lobe, and to a lesser extent of the upper lobe, with hyperemia of the left lung. The kidneys were normal.

The difficulty of distinguishing between pneumonic and enteric fever, whether the former be primary or secondary to enteric, is sometimes not inconsiderable. A youth aged seventeen was admitted with the history of an illness of five days' duration. There had been no initial rigor, there was no pain in the chest, there was very little cough, there was no rusty expectoration, there was no crop of herpes, no delirium and no crepitation. The physical signs were those of bronchitis. The temperature was 104° F., the pulse was one hundred and the respirations were thirty-two. There was no diarrhea, and there was no rash, but the absence of these could not be regarded as of diagnostic importance. The tongue was furred, the breath was foul, the body exuded a peculiar and unpleasant odor and the patient was so apathetic that he could be roused only with difficulty. A provisional diagnosis was made of enteric fever and the customary white counterpane was placed on the bed. On the fifth day from admission and on the tenth day of illness there was a well-marked crisis and the patient made a rapid recovery.

The term "typhoid pneumonia" is frequently applied to patients who present a typhoid condition, and it must not be regarded as synonymous with enteric pneumonia. Diphtheritic, plague, and erysipelatous pneumonias are well-known varieties of the disease. The usual complication of diphtheria in this connection is broncho-pneumonia, due not to the Klebs-Löffler bacillus, but to pyogenic cocci taken in during respiration. Erysipelatous pneumonia may occur in the course of erysipelas migrans, the inflammation affecting first the skin, then the mucous membranes, and finally spreading to the lungs. It is a good example of migratory or wandering pneumonia. Convalescence is likely to be prolonged and attended with much prostration. Pneumonia may occur in connection with pulmonary aspergillosis, although the pulmonary symptoms are usually more closely allied to tuberculosis. In actinomycosis, portions of the lung are converted into tough fibrous material, having an irregular interlobular distribution. In pulmonary anthrax there is a condition allied to pneumonia, the lungs on section being congested and odematous, with large extravasations of blood.

It is probable that in the majority of cases secondary pneumonia is a purely local inflammation, due to the action of the specific poison, and not differing essentially from inflammation of other organs and structures due to the same cause.

LATENT OR ASTHENIC PNEUMONIA.

These are cases in which the characteristic symptoms of the disease are absent or are masked by other clinical phenomena. In elderly people there is no initial rigor, and the presence of the disease may be revealed only by the prostration, headache and delirium, none of the usual symptoms of invasion being observed. The cough

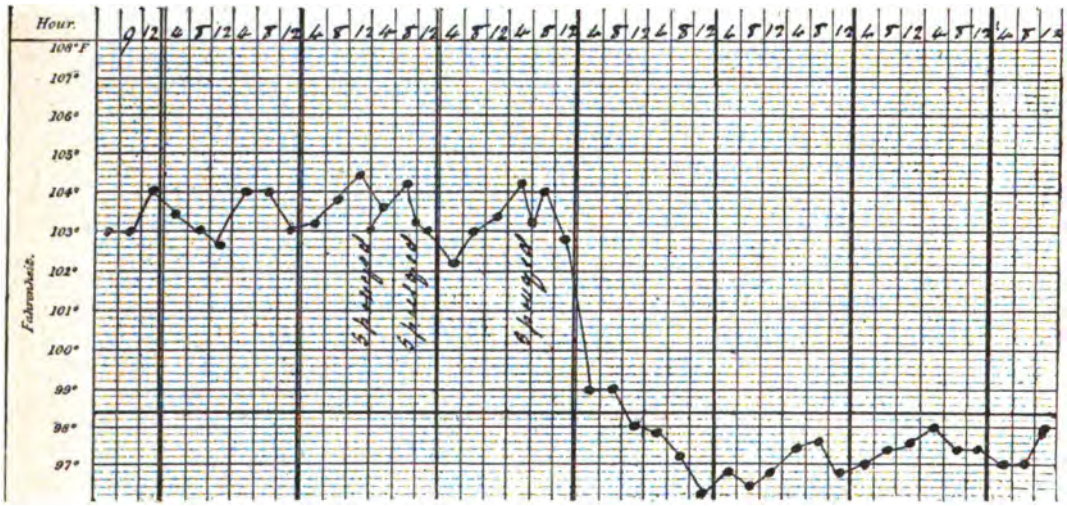

CHART VII.

and expectoration may be absent, and the latter, if present, may fail to present the characteristic appearance and may be simply viscid or puriform. The flushed face is not common, and the face is commonly pale and sunken. Fever is present, but is rarely high. This elevation of temperature, however, is sufficient to put the observer on his guard, for pneumonia is one of the few febrile disorders from which old people suffer. Most cases of secondary pneumonia tend to assume an asthenic type. There is intense prostration, with great depression of the nervous centers. This variety is often met with in people who are alcoholic, and in them the prognosis is grave. Death may occur early, and in cases of recovery convalescence is prolonged. Cheyne-Stokes respiration is a bad sign, and marks the beginning of the end. Stimulants are indicated, and it is in this variety that musk is most likely to do good. It should be administered in four-grain doses in pill every four hours. It is an expensive remedy, and at one time cost 2s. 6d. a grain, but is now cheaper. Sumbul has been proposed as a substitute, but has not the same therapeutical action.

CARDIAC PNEUMONIA.

This is a common disease, although some writers seem to doubt its existence, and speak of it as a condition of hyperemia, or congestion. It is a not uncommon complication of mitral stenosis, pericarditis, and fatty degeneration. The temperature rises suddenly, there is a short, dry, hacking cough, the expectoration is rusty, and fine crepitation is heard over one or both lungs. At the autopsy, in addition to pulmonary infarcts, hemorrhage, extravasation and hepatisation are found. A girl, aged twenty, was recently admitted with acute rheumatism followed by endocarditis (mitral regurgitation) and pericarditis with effusion. A week later there was a sudden rise of temperature, and the patient was found to have fine crepitation at the base of both lungs posteriorly, more marked on the right than on the left. There was no rigor, the cough was slight and hacking, whilst the

expectoration was rusty and streaked with blood. No tubercle bacilli were present, and the organisms, which were not numerous, consisted for the most part of short, thick bacilli, and of cocci in pairs, but not resembling the diplococcus pneumoniæ. There was a crisis on the seventh day, but the patient died a month after admission of acute endocarditis not septic in origin. The treatment of these cases in which there is a damaged heart as the result of rheumatic fever requires much care. Antimonial wine may be useful, but ten or fifteen minims of solution of hydrochlorate of apomorphine by mouth every three hours gives better results, chiefly by promoting expectoration. Counter-irritation over both bases should not be neglected. Stimulants, especially in the form of champagne and old brandy, are indispensable, and when the heart shows signs of failure and the pulse is frequent, irregular and intermittent, half-ounce doses of freshly-prepared infusion of digitalis every three hours, with hypodermic injection of one-twentieth grain of strychnine, are useful.

TRAUMATIC AND CONTUSION PNEUMONIA.

Traumatic pneumonia is the natural sequence of penetrating wounds of the lung. It differs from idiopathic pneumonia in exhibiting very little tendency to diffuse itself through the lung. It shows no predilection for the base, and as a rule is strictly localized. It is asthenic in type, and is accompanied by active febrile disturbance. It may terminate in abscess, but usually the lung exhibits a remarkable power of recovery from even extensive injury.

Contusion pneumonia may follow blows on the chest-wall or falls. It was at one time considered doubtful whether external violence, short of lung laceration, was capable of producing pneumonia, but the fact is now established that inflammation of the lung, having all the characteristics of acute lobar pneumonia, may ensue. This is a matter of importance in connection with claims against accident insurance companies. If a person meets with an accident and subsequently dies of pneumonia it is not always easy to say whether the condition of the lungs is primary or secondary to the injury. It is probable that in some cases a blow on the chest lowers the vitality of the subjacent portion of the lung, whilst a subsequent exposure to cold or wet determines the onset of the disease. A street scavenger, aged thirty-one, was admitted to the hospital, having been knocked down by a hansom cab, the wheel of which passed diagonally over the lumbar region and the left side of the chest. On admission, he was not collapsed, and there was no evidence of fracture of the ribs or injury to the liver. The urine was smoky in appearance, and as the patient had been in South Africa it was examined for bilharzia, but nothing was found. On the day following the injury a patch of fine crepitation was detected near the angle of the scapula on the injured side. There was no rigor and no elevation of temperature. The same night the patient commenced coughing, and the expectoration was rusty in character. The crepitation persisted for some days. There was no herpes, and no pleuritic effusion, and the patient made a good recovery.

SEPTIC PNEUMONIA.

The term "septic" is sometimes applied to cases of pneumonia originating in bad sanitary conditions, especially exposure to sewer gas. A true septic pneumonia may arise in connection with a wound or trivial abrasion, and the entrance into the system of either streptococci or staphylococci, or both. A patient admitted for penumonia is found to have an abrasion on the finger. There is no tenderness of the lymphatics, and there are no enlarged glands in the axilla. There is no cough or expectoration, the physical signs are not those of acute lobar pneumonia, and there is no crisis. The condition of the lung is, apparently, secondary, but there is nothing to connect it with the wound. The temperature is high, but not hectic in type. Anti-streptococcic serum does no good, and anti-staphylococcic serum is equally inefficacious. There are frequent shiverings, a very rapid and feeble pulse, with profuse perspirations, and death ensues by asthenia. At the autopsy a general pyemic condition is found, and cultures show a mixed infection, probably having its origin in the wound. These cases are often

extremely puzzling. Some writers limit the term septic to post-operation pneumonias in which there is absorption of septic material from open wounds. Cases of parturient pneumonia come within this category. Septic pneumonia following pregnancy is not especially fatal, but the prognosis of idiopathic pneumonia, both in pregnant and parturient women, is extremely bad. In many cases of septic pneumonia both pneumococci and streptococci are found in the expectoration. When the streptococcus infection predominates the onset is less abrupt than in the pneumococcic form, but the fever is of a hectic type, and there may be a succession of rigors. The physical signs are usually few and doubtful, and there may be little or no dullness on percussion. If the inflamed lobules are near the surface, moist sounds may be audible. The most notable feature is the long duration, with the shifting character of the physical signs. Termination is usually by lysis, and convalescence is as prolonged as in enteric fever.

ANESTHETIC PNEUMONIA.

Objection may be taken to the use of this term on the grounds that the lung condition is not always the result of the administration of the anesthetic and that when it does occur it is not, as a rule, a true pneumonia. In the majority of cases it is an catarrhal bronchorrhea, followed by edema of the lungs. It is met with most frequently after the administration of ether, but is occasionally seen after chloroform, even when not given by gas or candle light. I know of no case after nitrous oxide or ethylic chloride. Ether pneumonia may be due to the irritation produced by the anesthetic itself, by exposure of the patient to cold, especially in abdominal exploration, and possibly in some cases to the use of a contaminated mouthpiece. It is said to be more common after the use of "anesthetic ether" specific gravity 0.717 that after "ether purus" specific gravity 0.720. At the Westminster Hospital the latter is always used and there have been very few cases. Ether excites a hypersecretion of saliva, and as the mouth contains many pathogenic organisms it is conceivable that in deep respiration pneumococci may be drawn into the lungs and set up aspiration pneumonia. It is more common in hospital work than in private, possibly because in most hospitals the patient is taken out of a hot operating theater through drafty passages into a ward with open windows. This risk might possibly be obviated by putting a veil over the patient's head during the process of removal. In private practice the operation is usually performed in a room at a temperature of 70° F., the patient is well-covered with blankets and is kept warm with hot-water bottles. The administration of ether lowers the bodily temperature, which in a prolonged operation may fall from two to four degrees. The employment of special hot-water operating tables is worth considering, especially when the patient is prone to bronchitis. A well-known anesthetist attributes the freedom from lung complication in his cases to the fact that he never allows the windows to be opened after an operation. Attention to this point is of some importance, as the friends nearly always want the windows open in order to get rid of the, to them, objectionable smell of ether. It has been suggested that prior to the administration of the anesthetic the mouth, throat and nasal passages should be rendered aseptic by the use of a mouth wash and gargle, but what is of far more importance is to sterilize the mouthpiece. In the case of a woman aged fifty-nine, who died with symptoms of pneumonia on the third day after the administration of five ounces of "anesthetic ether" for an operation lasting fifty minutes, the reporter attributed the fatal result, not to the anesthetic, but to "shock and infection." He stated that he found afterwards that a visitor who was present had come straight from the *post-mortem* room to the operation. Such undesirable visitors should be excluded.

It is difficult to obtain accurate statistics of these cases, partly from the fact that there are many complicating factors which are difficult to eliminate, and to a still greater extent to the circumstance that in few hospitals is there an "anesthetic register." The question of keeping a register of anesthetics is worth considering. Many anesthetists of wide experience state that they have never met with

cases of this description, but from a comparison of statistics derived from various sources, I am inclined to think that bronchial complications of one kind or another are met with in, roughly, one in fifteen hundred cases of ether anesthesia. A case which attracted some attention not long ago was that of a well-known artist, who was operated on under chloroform, with a very little ether, in a nursing home in London. He apparently recovered perfectly from the effects of the operation and the anesthetic, but twenty-one hours later there was hypersecretion of bronchial fluid, which caused death from asphyxia in less than half an hour. I know, too, by hearsay, of a case in which a similar disastrous effect followed the administration of ether by the rectum for an operation on the larynx. Some years ago I saw, in consultation, a young engineer suffering from chronic bronchitis and emphysema. His story was that it was confirmed by his doctor; that two years previously his teeth being in a very bad condition he decided to have them removed, in order that a denture might be fitted. On a cold winter's day he went to the dentist and was shown into a room without a fire. He was told to remove his coat and collar, and a cold mackintosh was wrapped about his neck. He was placed in a chair opposite a window open at the top, from which a cold draft descended like a douche. He had gas and ether and the operation lasted over an hour. When he recovered consciousness he was thoroughly chilled, and for some days was laid up with acute bronchitis, from which he dated all his subsequent sufferings. With regard to cases of anesthetic penumonia, they should be treated on ordinary principles. The symptoms may make their appearance in from five to seven hours after the operation, or they may be postponed for some days. The cases of hypersecretion present no difficulty, for many years ago it was shown by Ringer and myself, working independently, that atropine was the physiological antidote to this condition. The patient should be inverted, so as to allow the fluid to run out of the mouth, and should be given a hypodermic injection of one-sixtieth grain, or more, of sulphate of atropine.

[Written for the MEDICAL BRIEF.]

The End of Bacteriological Fanatism and Weber's Treatment of Lung Tuberculosis by Means of Carbonic Acid.

BY A. ROSE, M. D.,
New York City.

The latest fashion in medicine, the beautiful dream of the curability of all diseases by means of serums, will soon be a thing of the past. The days of the bacteriologist, and nothing but bacteriologist, are numbered. Serious men of science have come forward expressing themselves that the bacteriological expectations have been too great, that bacteriological enthusiasm has to be reduced to sober judgment.

Nobody of scientific training will deny the importance of bacteriological investigation, nor the progress in science due to bacteriology, but that the bacteriologist, and nothing but bacteriologist, has done great harm to clinical medicine is an established fact.

The following experiences of my own may serve as illustration:

Ever since the year 1883 I have written and spoken of carbonic acid as an ideal, a rational remedy in dysentery; explained its effect by its physiological action, confirmed by clinical results. I took pains to speak and to write to colleagues, to some in high official positions, but without avail. Not a single notice have I seen of a trial given to this remedy in any medical journal. Bacteriologists will not take notice of it because it does not destroy bacteria. That it stimulates circulation by acting on the vasomotor nerves, that it relieves pain and spasm and cures ulcers, can not be considered by the bacteriologists. They were bound, at any price, to find an anti-dysenteric serum. There exists a voluminous literature on this serum, which could not be found. The bacteriologists, and this is the worst feature, have hypnotized the whole profession; nobody dares to speak of carbonic acid in dysentery.

A very curious experience which I had in speaking before a medical society on the continuous bath will demonstrate that I am not exaggerating. I explained the

effect of the warm bath on the circulation; the irritation of the ends of the nerves of the skin, the transmission of this irritation to the vasomotor nerves, the dilatation of the blood vessels, the acceleration of the circulation, the elimination of the products of inflammation and infection through this increased blood circulation. I gave my experience in treating erysipelas of the extremities by means of the continuous warm bath. I stated the fact that invariably the fever temperature in these cases was promptly reduced to the normal temperature; that all the symptoms of erysipelas disappeared in short time. One should have thought this fact, which can not be taken out of the world, would have excited interest and induced everybody to give the method presented a trial, for what more do we want but a reliable remedy with exact physiological explanation of its action? One of the colleagues present, in the discussion of my paper, said he only believed in serums, and the future, he was certain would present us with a serum for every disease. I am bound to mention this in order to show how far the bacteriological aberration had gone.

But, worse than all, is the following bacteriological fanatism:

It has been demonstrated, many years ago, that the best results in the treatment of cerebro-spinal meningitis were obtained by means of the continuous warm bath. Very little has been mentioned of this most rational remedy during the last severe epidemic of this disease in New York and elsewhere. The bacteriologists were anxious to discover an anti-toxin for cerebro-spinal meningitis. They did not find it, meanwhile flat bacteriologia. We have had experience with the continuous warm water bath in the treatment of cerebro-spinal meningitis, during an epidemic we had in the year 1872-1873; the results were highly gratifying. It is to be hoped that when the bacteriological fanatism shall have ceased that I will obtain a hearing on this question.

In the year 1889 Dr. Hugo Weber, of St. Johannsaar, Germany, wrote on his treatment of tuberculosis by means of carbonic acid in the *Berliner Klinische Wochenschrift*. But very little attention was paid to his communication at the time—the time of the general jubilee over Koch's tuberculin injections.

In tuberculosis not only infection, but also disposition, plays a role in the origin and the development of the disease, and this latter factor is the decisive one in tuberculosis. We can not protect ourselves against invasion of tubercle bacilli. Naegli, of Zurich, found by very carefully-made autopsies that tuberculous infection had existed in ninety-six per cent of subjects in the age of eighteen to thirty years. In higher and in younger ages this percentage is less, and in children of less than one year no tuberculous focus was found. While we are powerless against invasion of tubercle bacilli, we can check their development by changing the nutritive soil and invigorating the constitution.

And, indeed, the therapy practiced in the sanitaria is no longer based on the doctrines of bacteriology; the treatment remains as it was before the bacteriological period, namely, by invigorating of the constitution and change of nutritive soil. The results obtained by treatment in the sanitaria are by no means so satisfactory that we have no need to look for still better and additional methods; and, besides, how can we secure accommodation for the majority of the tuberculous in sanitaria? Under the circumstances any new remedy or method, like the one described by Weber, which can be called a rational one, as being based on physiological principles and supported by clinical facts, has to be considered seriously.

Weber is of the opinion that carbonic acid in our system protects the tissues against tubercle bacilli. Lungs overcharged with carbonic acid, as in the case of emphysema, enjoy a certain degree of immunity against the attacks of the tubercle bacillus. Patients with heart disease and considerable venous hyperemia of the lungs, *i. e.*, the lungs overcharged with carbonic acid, enjoy a certain immunity against tuberculosis. Hunchbacks, with their crippled thoraxes, are commonly free from pulmonary tuberculosis. The hunchback has been caused by tuberculosis of bones, but against pulmonary tuberculosis they are protected. Diabetics are especially prone to become tuberculous. This is due to insufficient development by them of carbonic acid. Phthisis is arrested dur-

ing pregnancy. The fetus continuously introduces carbonic acid by its metabolism into the maternal organism, and it is this carbonic acid which checks the murderous disease. In regard to mucous membranes, we find that wherever there is greater vascularity, and consequently more active metabolism, more carbonic acid is produced, and this means better protection against tuberculosis. The mucous membranes of the mouth, pharynx and esophagus, are less vulnerable in regard to tuberculosis than those of the larynx and trachea, while the stomach, duodenum, bile ducts, and urethra are almost immune. In fact, according to Weber's theory, the relation to tuberculosis depends on the amount of carbonic acid they contain or develop. The fact that laborers in lime kilns remain immune against tuberculosis is explained by the circumstance that in their case the diffusion of gases is made more difficult, elimination of carbonic acid being, to a certain extent, prevented.

Weber's method consists in enriching the system with carbonic acid by developing the gas in the body itself. He brings a certain carbohydrate, namely, paraffin, in purified preparation, into the subcutaneous adipose tissue, ten grammes daily, selecting the back as the site of the injections. His results in three hundred and seven cases have been gratifying. He publishes fifty-two of these cases with all details. His method is fully described in his book: *"Die Heilung der Lungenschwindsucht durch Befoerderung der Kohlensaürebildung im Körper"* (The Cure of Pulmonary Consumption by Means of Promoting Development of Carbonic Acid in the System).

Many ways lead to Rome. Whether the method of Weber of developing carbonic acid in the body itself, or the method practised by Bergeon, Ephraim and myself, the introduction of carbonic acid into the large intestine is to be preferred, can only be decided by comparing the two modes of application in regard to their results. First of all, we have to find out if Weber's deductions are correct. It would have been a most extraordinary hazard if he should have succeeded to cure or improve quite a number of patients in comparatively short time, as he describes, if this had not been due to his method employed in these cases. Weber warns not to expect too much, saying: "To promise help to every consumptive, whose clock points to one-quarter before twelve, would be either revery or swindle." Further: "After my method shall have been adopted in principle, it will easily become improved, because there are many ways by which carbonic acid may be introduced into the body."

[Written for the MEDICAL BRIEF.]

Cataphoresis in Malignant Growths.

BY F. O. MARSH, A. M., M. D.,

Professor of Chemistry in the Miami Medical College, Cincinnati, Ohio.

The modern method of destroying malignant growths by means of cataphoresis is not to be confounded with the Apostolli method of treating fibroid tumors of the uterus. Cataphoresis, anaphoresis, or simply phoresis, are terms in medical and surgical parlance expressing what is known in the modern physics as the migration of ions, and signifying more than the older and more familiar term electrolysis. Electrolysis, pure and simple, means merely electric decomposition. Cataphoresis takes note of the attendant movement of the ions or electric units into which chemical compounds are decomposed, and their disposition in the medium surrounding the electrodes; their velocity of migration, etc., all have been studied to practical surgical account.

The full surgical use of cataphoresis, the writer is convinced, should not be confounded in value with the fashion in vogue some years ago of attempting to force drugs through the skin for general or local absorption by means of the galvanic current. Owing to the comparatively feeble currents used, there is every reason to believe that the results attained were more often imaginary than real. Often the results claimed were entirely visionary and founded on misconception. The idea of driving iodine, as such, through the skin by the application of the negative pole, is quite a delusion.

True it is that, after a sufficient time, with enough current, the iodine disap-

pears, but it has simply entered the skin as sodium iodide. The writer has repeatedly demonstrated that by causing the vapor of chlorine gas to impinge upon an artificial conducting medium, after stopping the current, the iodine cloud develops at once, revealing its exact position.

In the ordinary operations of electrolysis with which we are familiar an effort is made to select electrodes which resist chemical attack, as gold, platinum or iridium.

The modern surgical cataphoric operation is done with a positive electrode of zinc amalgamated with mercury purposely selected with a view to the development of the chlorides or oxychlorides of zinc and mercury and their diffusion through the surrounding tissues.

A major operation of this kind is done as follows:

The one hundred and ten-volt direct Edison current, or a current of similar strength from a sufficient number (about sixty) battery cells is employed. An efficient controller must be inserted in the circuit best of the graphite type for turning the current on and off very gradually, without shock to the patient.

A milliampmeter capable of registering a thousand or fifteen hundred milliamperes should be in the same circuit with the patient for keeping track of the current strength employed. The patient having been thoroughly anesthetized, is laid with his back upon a broad clay pad, which should be large enough to cover the whole back and even extend down under the buttocks and under surface of the thighs. The clay electrode, soaked in warm water to increase conductivity, is in immediate and intimate contact with the skin, the lower surface being also in contact with the negative plate of sheet lead.

The positive pole is connected by a leash with three or four amalgamated zinc points, which are thrust into the substance of the growth to be destroyed.

The current is then turned on very gradually till the milliampmeter indicates a current of one hundred and fifty to two hundred and fifty milliamperes to each point, the total current rising to a strength of seven hundred or eight hundred milliamperes or more. Of course, care and circumspection must be used in the neighborhood of important nerve trunks, the phrenic, pneumogastric, etc.

By the cataphoric diffusion of the zinc and mercury salts the growth is gradually devitalized and converted into an odorless eschar, which subsequently separates.

The writer has long been impressed with the possible advantages of this method of treating malignant growths which originated in the hands of Dr. Massey, of Philadelphia.

During a recent visit to the American Oncologic Hospital, of Philadelphia, incorporated and put in operation within the last few months, for the treatment of cancer and tumors in general, my previous conceptions as to the value of this procedure were amply justified.

In this institution the cataphoric operation is in frequent use and gives excellent results. The advantages which can be fairly claimed are these:

1. It is a bloodless operation, which is a minor consideration, but one worth taking into account.

2. There is no effusion of lymph or creation of fresh surface during the operation. If there is any foundation for the growing feeling among surgeons that there lurks a possible danger in these operations of accidental re-implantation of cancer cells, this is a matter of prime importance.

It is, perhaps, not superfluous to call attention to the fact that according to such a conception the ordinary asepsis against bacterial invasion constitutes no barrier to cancerous re-infection, but may even facilitate it, as in the case of a successful skin graft, where asepsis favors cell preservation. In other words, is it possible that surgical care may promote the transplantation of morbid epithelium when it is not expected and not wanted?

These considerations, together with the actual results, indicate that the danger of recurrence is diminished.

A noticeable fact is the absence of pain after the operation and the absence of odor in the eschars, one of the most objectionable and repulsive features of handling these cases being thus removed.

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[Written for the MEDICAL BRIEF.]

Medical Ethics—Impressions of an Outsider.

BY J. HUGO GRIMM, ESQ.,
St. Louis, Mo.

The article on "Medical Ethics" by Dr. Jackson in the December number, 1904, of the MEDICAL BRIEF, which I have just read with interest, brings to mind an experience which I have recently had with the medical profession and its vaunted code of ethics. As a professional man, with a large acquaintance with physicians and surgeons, I have naturally felt a bond of sympathy for the members of a sister profession, assumed that, with an occasional exception, they were men of high character, truthful and with a well-developed sense of honor, and have acted upon this assumption. As happens to most lawyers who enjoy a considerable general practice I have been consulted at different times by persons who felt that their physicians or surgeons had not discharged their duty to them and who conceived that they had a good case for malpractice. Before taking any action I have invariably communicated with the physician in question, gotten his version of the case, and acting upon the assumption that he was honest and truthful, based my action upon his statement, with the result that all thought of legal proceedings was abandoned. In one case, however, in which, after a polite letter to the surgeon who was charged with unskillfulness and neglect, had met with no response at all, I brought suit after having laid the facts of the case before quite a number of surgeons, who gave their opinion quite freely, and without exception condemned the operation in question. After the suit was brought the defendant sent word to me that he thought he was being sued unjustly and could convince me that he had done his duty by my client, and even at that stage of the proceedings I took the trouble to call on the doctor and get his version of the case. As his statement only confirmed my opinion that the plaintiff had a perfectly valid and meritorious case, I determined that the case would have to be tried, and this brings me to the curious idea of professional ethics which I found to prevail among many physicians in this city. Those who had before the suit was brought expressed themselves freely in condemnation of what had been done by the surgeon in question, either begged not to be called as witnesses, or refused point blank to testify against a fellow-physician, giving me to distinctly understand that if I persisted in calling them that it would be a bad thing for my client. One of our distinguished surgeons, who was requested to examine the patient, and as a matter of fairness was told that a suit was pending growing out of the treatment, refused outright to examine the patient at all, and subsequently stated to me that in any suit against any physician or surgeon for malpractice, no matter how meritorious the case, nor how manifestly improper had been the treatment of the patient, that nevertheless he could have any amount of expert medical testimony to approve what he had done, as the profession considered it their duty to stand together and stamp out this class of litigation. I was naturally startled at such a bold statement, and said in substance: "Doctor, do you mean to say that physicians or surgeons of standing and character in the community would appear in court and deliberately testify that a certain method of treatment or operation was proper, when they knew that it was not?" and the answer was: "Yes, they will. When one is sued it is considered the duty of all the others to stand by him, right or wrong. There are so many suits of this character brought that we must do it in self-protection."

I could not believe that this man was sincere in what he said, for in my own experience I had found too many honest and honorable men practicing the profession of medicine. My subsequent experience, however, did show me that there is an unwritten law among a numerous class of practitioners of medicine in this city which forbids their testifying against a fellow practitioner, and that the penalty of a violation of this unwritten law is a species of ostracism. It seems that under their idea of professional ethics a physician owes no duty to the cause of justice, to his fellow man, or to the State; indeed, if he testifies against his brother physician, no matter how honest and conscientious he may be in his testimony, nor how

pears, but it has simply entered the skin as sodium iodide. The writer has repeatedly demonstrated that by causing the vapor of chlorine gas to impinge upon an artificial conducting medium, after stopping the current, the iodine cloud develops at once, revealing its exact position.

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The positive pole is connected by a leash with three or four amalgamated zinc points, which are thrust into the substance of the growth to be destroyed.

The current is then turned on very gradually till the milliampmeter indicates a current of one hundred and fifty to two hundred and fifty milliamperes to each point, the total current rising to a strength of seven hundred or eight hundred milliamperes or more. Of course, care and circumspection must be used in the neighborhood of important nerve trunks, the phrenic, pneumogastric, etc.

By the cataphoric diffusion of the zinc and mercury salts the growth is gradually devitalized and converted into an odorless eschar, which subsequently separates.

The writer has long been impressed with the possible advantages of this method of treating malignant growths which originated in the hands of Dr. Massey, of Philadelphia.

During a recent visit to the American Oncologic Hospital, of Philadelphia, incorporated and put in operation within the last few months, for the treatment of cancer and tumors in general, my previous conceptions as to the value of this procedure were amply justified.

In this institution the cataphoric operation is in frequent use and gives excellent results. The advantages which can be fairly claimed are these:

1. It is a bloodless operation, which is a minor consideration, but one worth taking into account.

2. There is no effusion of lymph or creation of fresh surface during the operation. If there is any foundation for the growing feeling among surgeons that there lurks a possible danger in these operations of accidental re-implantation of cancer cells, this is a matter of prime importance.

It is, perhaps, not superfluous to call attention to the fact that according to such a conception the ordinary asepsis against bacterial invasion constitutes no barrier to cancerous re-infection, but may even facilitate it, as in the case of a successful skin graft, where asepsis favors cell preservation. In other words, is it possible that surgical care may promote the transplantation of morbid epithelium when it is not expected and not wanted?

These considerations, together with the actual results, indicate that the danger of recurrence is diminished.

A noticeable fact is the absence of pain after the operation and the absence of odor in the eschars, one of the most objectionable and repulsive features of handling these cases being thus removed.

1616 Main Street.

[Written for the MEDICAL BRIEF.]

Medical Ethics—Impressions of an Outsider.

BY J. HUGO GRIMM, ESQ.,
St. Louis, Mo.

The article on "Medical Ethics" by Dr. Jackson in the December number, 1904, of the MEDICAL BRIEF, which I have just read with interest, brings to mind an experience which I have recently had with the medical profession and its vaunted code of ethics. As a professional man, with a large acquaintance with physicians and surgeons, I have naturally felt a bond of sympathy for the members of a sister profession, assumed that, with an occasional exception, they were men of high character, truthful and with a well-developed sense of honor, and have acted upon this assumption. As happens to most lawyers who enjoy a considerable general practice I have been consulted at different times by persons who felt that their physicians or surgeons had not discharged their duty to them and who conceived that they had a good case for malpractice. Before taking any action I have invariably communicated with the physician in question, gotten his version of the case, and acting upon the assumption that he was honest and truthful, based my action upon his statement, with the result that all thought of legal proceedings was abandoned. In one case, however, in which, after a polite letter to the surgeon who was charged with unskillfulness and neglect, had met with no response at all, I brought suit after having laid the facts of the case before quite a number of surgeons, who gave their opinion quite freely, and without exception condemned the operation in question. After the suit was brought the defendant sent word to me that he thought he was being sued unjustly and could convince me that he had done his duty by my client, and even at that stage of the proceedings I took the trouble to call on the doctor and get his version of the case. As his statement only confirmed my opinion that the plaintiff had a perfectly valid and meritorious case, I determined that the case would have to be tried, and this brings me to the curious idea of professional ethics which I found to prevail among many physicians in this city. Those who had before the suit was brought expressed themselves freely in condemnation of what had been done by the surgeon in question, either begged not to be called as witnesses, or refused point blank to testify against a fellow-physician, giving me to distinctly understand that if I persisted in calling them that it would be a bad thing for my client. One of our distinguished surgeons, who was requested to examine the patient, and as a matter of fairness was told that a suit was pending growing out of the treatment, refused outright to examine the patient at all, and subsequently stated to me that in any suit against any physician or surgeon for malpractice, no matter how meritorious the case, nor how manifestly improper had been the treatment of the patient, that nevertheless he could have any amount of expert medical testimony to approve what he had done, as the profession considered it their duty to stand together and stamp out this class of litigation. I was naturally startled at such a bold statement, and said in substance: "Doctor, do you mean to say that physicians or surgeons of standing and character in the community would appear in court and deliberately testify that a certain method of treatment or operation was proper, when they knew that it was not?" and the answer was: "Yes, they will. When one is sued it is considered the duty of all the others to stand by him, right or wrong. There are so many suits of this character brought that we must do it in self-protection."

I could not believe that this man was sincere in what he said, for in my own experience I had found too many honest and honorable men practicing the profession of medicine. My subsequent experience, however, did show me that there is an unwritten law among a numerous class of practitioners of medicine in this city which forbids their testifying against a fellow practitioner, and that the penalty of a violation of this unwritten law is a species of ostracism. It seems that under their idea of professional ethics a physician owes no duty to the cause of justice, to his fellow man, or to the State; indeed, if he testifies against his brother physician, no matter how honest and conscientious he may be in his testimony, nor how

clearly correct he may be in his opinions, he is nevertheless condemned by his medical society brethren. I did not think before this trial that this state of affairs really existed, but now I know that it does. I discovered, for instance, not only that physicians who had given their opinion warned me not to summon them as witnesses, but at least one who was summoned disobeyed the summons, and another was opportunely "called" to a case in the country, where he tarried until after the case was closed. Not only this, but by a strange coincidence a medical witness who was summoned in this case and showed sufficient respect for the Court and the law to obey the summons and appear in court, was condemned by a number of highly ethical practitioners at a meeting of a medical society, even before he testified. At that meeting, which took place the day before he testified, the society being desirous of increasing its membership, those present suggested different persons whom they thought desirable as members, and, among others, the particular physician in question who had been summoned as a witness was suggested, probably without his knowledge. No sooner was his name suggested than a half dozen members were on their feet and protesting against inviting into the society a gentleman who was a witness for plaintiff in a suit against a fellow doctor. The mere fact that he was in court as a witness for plaintiff seemed to these gentlemen a sufficient excuse for attacking and criticising a person who was not present, and who had not even submitted his name to their consideration. That he was there in obedience to the command of the State did not make any difference; nor did the fact that in giving his testimony he gave it truthfully and honestly have any weight. Indeed, as already stated, he had not even testified. The mere fact that he was subpenaed as a witness against another doctor was sufficient. One well-known elderly physician who was present at the meeting was so indignant that he delivered two speeches. In one he criticised a doctor who would give an opinion in a case he had not seen, yet with that indifference to consistency which characterizes some brilliant minds, he himself attended the trial in question for several successive days to testify for his brother, if need be, although he himself had never seen the case.

When physicians who claim to be the personification of the ethical, and who assume the right to pass judgment on their brethren, entertain such ideas of right and duty as already indicated; when it has become a matter of common knowledge that distinguished medical experts can be found to express almost any shade of opinion that may be desired, and that the majority of them will not only deny their aid to any attempt to hold another physician responsible for his wrongful or negligent acts, but will stand by him, right or wrong, with a loyalty and steadfastness surpassing that of any known organization of men, is it a wonder that expert medical testimony is regarded with suspicion by courts and juries and, indeed, by the general public, and only too frequently spoken of with contempt?

Would it not be far better for the profession, instead of banding together for mutual protection and, in some cases at least, conspiring together to defeat law and justice, would it not be better and more profitable for them in the end if they acted upon the maxim, that "Justice must be done though the heavens fall"—*Fiat justitia, ruat cœlum*—and show that same regard for truth and right in this class of cases that they would in any other?

Does a physician or surgeon discharge his duty to the community at large or to his own profession or to himself when he exerts all his ingenuity and ability to make that appear right and proper which, in his own heart, he knows was wrong and deserving of condemnation? Is not the unfortunate who suffers from injury or disease entitled to careful and conscientious care at the hands of the physician to whom he must, of necessity, entrust his life? And if the physician is derelict in the discharge of the sacred duty devolving upon him, should he not be compelled, so far as possible, to make good the wrong he has done? Instead of banding together to stamp out all malpractice suits, would it not be more honorable and profitable too, for the profession to be just, fair and outspoken, for then not only would the unjust cause be defeated and groundless

litigation discouraged, but professional carelessness, indifference and incompetence would become less common, and besides the consciences of some expert witnesses would be relieved of a very considerable strain. That I may not be charged with being unfair or making my condemnation too comprehensive, I wish here to bear cheerful testimony to the fact that I have met with some medical experts who testified for their colleague in the very case to which I have referred, and who gave every indication of being honest and conscientious in their testimony; but the fact remains that the generality of the profession is unfortunately open to the criticisms heretofore made, and the sooner these gentlemen see the error of their ways the better for the honor of the medical profession. They are sadly mistaken if they believe that the community is deceived; the esteem in which expert testimony is held by the public at large shows the people are very wideawake. I, therefore, commend these lines from Burns to the consideration of the experts:

Oh! would some power the giftie gi'e us,
To see ourselves as others see us.

Fullerton Building.

[Written for the MEDICAL BRIEF.]

Proctitis and Sigmoiditis.

BY R. D. MASON, M. D.,

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Inflammation of the different mucous membranes are very common and manifest their presence in different ways, according to the part affected, and whether acute or chronic. The causes that will produce the disease in one place will do so in another. A sudden chilling of the body may cause a so-called cold in the head, and sleeping on cold, damp ground may cause a proctitis, which if left untreated may become chronic, and we have the chronic diarrhea so often found among elderly people, especially old soldiers.

There may also be a specific inflammation of the rectal membrane, generally due to indirect causes, as diphtheria, gonorrhea, etc., accidentally carried from some other part of the patient's body to the anal or rectal membrane by means of instruments, fingers or syringe nozzles, or by the discharge from the vagina flowing over the parts.

Among the causes, in addition to those already mentioned, probably the most common one is traumatism, either from within or without. From within serious injury may be the result of substances swallowed, as pins, fish bones and other foreign substances. All such things will pass through the stomach, small and large intestines without difficulty, but lodge in the rectal pouch and set up an inflammatory process that may result in a general proctitis or possibly an abscess. I have frequently taken such things from abscess cavities in this region. The disease may also be caused by the retention of hard, dry, impacted fecal matter, which is very irritating. Those causes which act from without are contusions and punctured wounds. It is not very uncommon to have the bowel wall punctured by the rough use of instruments or the finger in making an examination.

In a recent issue of the journal of the American Medical Association, Dr. Howard Kelley cites several cases where the wall of the bowel was punctured by the examining finger. This is more likely to occur in old people. In case such wounds are uncared for a proctitis or peri-proctitis would result that might prove fatal. Kelley says such wounds should be repaired by opening the abdomen and stitching from the peritoneal side. Owing to their being so low in the pelvis it seems to me that this would be extremely difficult to do.

In the chronic form of the disease, in addition to the rectal inflammation we almost always have an extension to the sigmoid and the whole descending colon may be affected.

In acute proctitis the pain is very great and is accompanied with tenesmus and considerable constitutional disturbance. There is a constant feeling that there is something more in the bowel, even after the patient has just left the commode, but this is due to the swollen mucous membrane.

When the disease becomes chronic there is not much pain, except on deep pressure

over the sigmoid. The desire to go to stool, while not constant as in the acute form, is still very troublesome and there may be from ten to twenty bowel movements daily. This takes place more often in the morning rather than any other part of the day, and it is not uncommon to have four or five bowel movements in rapid succession containing bloody mucus or clear mucus resembling jelly and followed by a solid stool. The patient may then pass the rest of the day with but little discomfort.

In its early stages it is difficult to diagnose the disease from cancer of the sigmoid, but as the latter is essentially chronic, while cancer runs its course in two or three years, and as the sigmoiditis does not, as a rule, come under the doctor's care until it has run for some time, the diagnosis is not hard to make. A microscopical examination of the discharge should be made to differentiate between the common inflammations and amebic dysentery. As the amebæ are not active in cold solutions the examination should be made while the matter passed is still warm.

In the chronic form of the disease the membrane of the sigmoid, when examined through the sigmoidscope, has a very dark appearance and looks like fresh, raw beef, and in some instances blood may be seen oozing from the bowel wall.

Treatment in the acute form consists in rest to the inflamed part, a carefully-selected diet, and the use of mild antiseptic astringent solutions. The one great difficulty in treating proctitis is the lack of drainage. The products of inflammation are retained behind a tight sphincter muscle and the greater the inflammation the more firmly does the muscle contract. This is true to such an extent that often it is only with the greatest difficulty that a bowel movement may be had or an irrigator tube introduced. In such cases the patient had better be put under the influence of an anesthetic and the sphincter divulsed. In punctured wounds, where the bowel wall is torn and pus has formed, it may be necessary to cut the muscle posteriorly, so that proper drainage may be obtained. There is no one thing that assists Nature in bringing about a cure in a diseased organ that is acutely inflamed so much as rest. For this reason in acute cases the patient should be kept in bed and fed only highly-concentrated food, such as will leave practically no residue to pass away. In fact, if almost no food is given for a few days it will greatly assist in the cure. Another reason why the recumbent position should be insisted upon is that the rectum and sigmoid are drained by the middle and superior hemorrhoidal veins, which have no valves and go direct to the liver through the portal system, and when the patient is standing the weight of this entire column of blood has to be lifted by the heart, while if the patient is lying down gravity will greatly assist in keeping the parts from excessive congestion.

In the acute form it is not very common to have an extension to the sigmoid, and for this reason any injection used need not be forced above the rectal pouch. A double current rectal irrigator should be used, or if this is not at hand an ordinary soft-rubber catheter may be introduced with the syringe nozzle for the return flow; by shutting off the outflow tube the rectal pouch may be filled to its fullest capacity. The remedy that has given me the greatest satisfaction is fluid hydrastis in twenty-five per cent solution. Weak solutions of zinc, copper, etc., are useful, as are also the new preparations of silver, in from five to ten per cent solutions. Silver nitrate should not be used in acute proctitis, except in very weak solutions. In order to control the constant desire to empty the bowel some local opiate is needed, and nothing is better than two or three ounces of starch water to which has been added from ten to thirty drops of tr. opium. This may be repeated as found necessary.

Specific proctitis is not often seen and is generally due to gonorrhea. The line of treatment should be the same as that followed in treating the disease in other localities. The bowel should be irrigated with large hot permanganate solutions of from three to five per cent in the early stages. In the later stages of the disease astringent solutions should be used and a good formula is the following:

℞ Zinc Sulph.....12 grains.
Bismuth Carb..... 2 drachms.
Liq. Hydrastis (colorless)..... ½ ounce.
Aquæ Dest., ft.....q. s..... 2 ounces.

One-half of this may be added to an equal quantity of water and injected and allowed to remain.

In treating the chronic form of the disease we meet with a more difficult problem, as the sigmoid and often the descending colon are affected, and irrigations must be forced above the rectal pouch. Most writers on this subject advise the use of the long rectal tube, but I have found from experience that it is exceedingly difficult to introduce this instrument into the descending colon. I have used the utmost care in trying to do this and have congratulated myself that the tube was in almost its full length only to find that it was coiled in the rectum. My plan for irrigating the bowel is as follows: Have the patient lie on his back with the hips well elevated. Have the water very hot and the irrigator not more than two feet above the table; use a short nozzle, not more than three inches long; let the water run very slowly, and if the patient says he can not hold it, stop the flow until the desire for an evacuation passes away and then start it again. It is only the first few ounces that causes the desire for an evacuation to be felt, and as soon as the water begins to flow into the sigmoid this will pass away, as a rule. If the sphincter is very lax push the syringe nozzle through a small roller bandage and then into the bowel and sufficient pressure may be made against the sphincter to prevent the loss of water around the nozzle. By using a double-flow catheter and compressing the outflow tube at intervals the colon may be flushed with sterile water or salt solution, after which such medicated solutions as may be preferred may be run in and allowed to remain. This thorough flushing of the colon should not be done more than two or three times a week at first and later not more often than once a week. In case there is much blood in the discharge a solution of silver nitrate seems to do more good than any other remedy. It should not be stronger than one-half of one per cent at first, and may be gradually brought up to two or three per cent. It should not be used more often than once a week, and if it causes much pain it may be followed by the normal salt solution, but this should never precede the silver.

In case amebic dysentery is present the solutions used should be cold, as the ameba can not live in a low temperature. Tuttle claims to have cured several cases with ice water. A line of treatment which consists mainly in giving large doses of epsom salts has proven very successful, mainly by keeping the colon clear of irritating material. This constant cathartic action of the drug is very depressing to the general health and really accomplishes no more than irrigation with salt solution.

Great care should be taken with the diet and only the most easily digested, nutritious food given. Tea, coffee, and all alcoholic drinks should be prohibited. The treatment in the chronic form of the disease is necessarily slow and tedious, and requires considerable time, but if carried out faithfully will generally result in a cure.

Should it be found impossible to bring about a cure by the methods outlined, a colostomy may be done and, by diverting the fecal current, give the bowel complete rest, or an opening may be made in the cecum and by means of a catheter the treatment may be carried on, both from above and below, as recommended by Gibson.

500 Brown Block.

[Written for the MEDICAL BRIEF.]

Pneumonia.

BY IRA W. UPSHAW, M. D.,
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Pneumonia in this latitude is one of our most common diseases and at present very fatal under some lines of treatment; therefore, it is necessary that one should be able to diagnose it in the early stages and abort the same. Usually we see our cases pass from simple attacks of congestion to cases of true pneumonia while we wait for the bacteriologist to find Frænkel's diplococcus. This accounts for the high death rate which some physicians report. On being called to a case of pneumonia we get first a history of undue exposure, followed by chills, either slight and indefinite or severe, according to the

severity of the case. Following this we have a rise in temperature, rapid respiration, increased pulse rate, followed by feelings of oppression in the chest, with pain on each inspiration, and often a "grunt" with each expiration. Restlessness, fear of some impending danger, flushed cheeks, especially flushing of the cheek corresponding to the lung involved. Dilatation of the nostrils; both sides of the chest usually move alike, but in the later stages the affected side may show decreased movement, the unaffected showing increased movement to compensate. By percussion we find increased dullness over the affected area, except in the very earliest stages of the disease we may get a tympanitic note with slight or no dullness. By auscultation we find a feeble or suppressed breathing over the affected area and crepitant râles at the end of the inspiration. If some of the smaller bronchi are blocked, which may occur, we have absent or feeble respiratory sounds. These symptoms, in connection with cough, rusty sputum (not present in first stage), pain in affected area, difficult breathing, is sufficient for our diagnosis.

In treating pneumonia we can have no set line of treatment, each case being different. First, move the bowels thoroughly, preferably with mild chloride or citrate of magnesia, following with the usual sedatives, aconite for the small pulse; veratrum for the full, bounding pulse; bryonia when the cough is short, sharp and dry; ipecac when the cough is dry, showing lack of secretion; asclepias when the pleura is involved and pain is increased on inspiration. Jaborandi may be used where we wish the diaphoretic action, but I usually depend upon the asclepias; ammonium chloride when the sputum is sticky and ropy, causing it to hang in the throat and tax the patient's strength to expectorate; cactus when the heart is weak. Other remedies may be indicated, such as sodium sulphite, baptisia, echafolta, digitalis, codein, etc. The diet should be liquid and as nourishing as possible.

After the temperature returns to the normal and the skin is moist, with a clean or cleaning tongue, give one- or two-grain doses of quinine every three or four hours. Locally apply lard and turpentine hot every three hours, wrapping the entire chest in cotton or, better still, covering the entire chest with some one of the glycerine preparations, and then wrapping in cotton. Renew same every six to eight hours, according to the severity of the case. If there is a catarrhal condition of the air passages and the patient does not recover promptly, put him on some preparation of creosote. If this line of treatment is followed out with proper attention to the care of the chest there need be little fear of pneumonia.

5015 Shaw Avenue.

[Written for the MEDICAL BRIEF.]

Some Indications for Brain Operations.

BY ALBERT E. STERNE, A. M., M. D.,

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So frequently is the question asked of the writer, "what cases are suitable for brain operations, and what are the results of operative interference upon the skull and its contents," that he is impelled to write a few words upon the subject.

First of all, it would be wise to differentiate between operations of "necessity" and operations of "choice."

Under the caption "Operations of Necessity" would essentially fall the conditions arising immediately after injury to the head, and those which we might consider as surgical efforts to relieve any immediate danger to the life of the individual.

The question as to whether operation is necessary and to what extent the surgical procedure should be carried to relieve the immediate effects of traumatism, depends very largely upon the nature of the injury to the skull and brain.

Again, we should differentiate between injuries of impact and injuries of momentum.

Injuries of impact are those occasioned by the use of a hard object which comes in contact with the skull in a circumscribed area. Such injuries, as a rule,

consist of a tearing or cutting of the scalp, and injury to the bone beneath, with or without fracture of both the inner and outer table of the skull at the site of impact.

Under such circumstances it is always advisable to enlarge the opening in the scalp to an extent sufficient to determine whether there has been a fracture of the bone beneath. In the event of such fracture radical removal of all fracture particles, of spiculæ penetrating into the brain tissue, is absolutely essential. If this be done the victims of accidents of this character usually recover; provided, of course, the trauma has not been of such degree and extent as to create very serious damage to the brain tissue itself, or unless one of the large sinuses be torn.

Injuries of momentum, on the other hand, are of a different character. These are occasioned by the impact against the head, either of a heavy, soft object, wielded with force, or by the weight of the body itself, which acts as a source of momentum. In a traumatism such as this there may not even be a laceration of the scalp, although this is likely to occur in addition to extensive bruising of the surrounding area. There may be, and frequently is, fracture of the cranium at the site of the blow, very frequently only the inner table being broken. Ordinarily, immediately beneath the skull at the point of injury there occurs hemorrhage of greater or less degree, but not infrequently the hemorrhage occurs at a point opposite the site of the blow, by counter shock (*contre-coup*).

The immediate effects of momentum injuries are apt to be profound, and partake of the nature of what is called brain concussion, or better said, brain commotion. The symptoms may be very profound, extending to complete coma shortly after the injury, unless operative measures are rapidly set into play. As a matter of course, it is necessary that thorough knowledge of focal symptomatology be the possession of the physician and operator in order to determine the exact location upon the cranium at which trephining should be done. It would take us too far in a paper of this length to detail all the various focal symptoms that might arise in cases of momentum injury, but, as a rule, it might be considered a safe counsel to advise the first entrance into the skull at or near the site of injury. If there should prove to be no lesion beneath the skull at this point, it should be the rule to open a second time at a point approximately opposite the site of the traumatism.

Not unusually we find extensive hemorrhage in injuries of this kind, sometimes extra-dural, sometimes beneath the dura, and very often in addition we find severe lacerations of the brain tissue itself, with additional hemorrhage from the torn blood vessels lying within the brain tissue.

Injuries of momentum are not only to be looked upon as extremely serious at or shortly after the time of occurrence, but of profound prognostic significance as to the future life of the victim. Not uncommonly we see patients who develop serious intracranial lesions remotely, sometimes years after the injury has been received. Such lesions are prone to consist of cysts and abscesses, and there may be, in addition to these or without them, lesions of a finer character affecting the cellular life of the brain, and upon which there develops a higher or less degree of true dementia. It will be seen, therefore, that injuries of this character achieve a very considerable dignity and should invariably be looked upon with serious eye and consideration.

One point is worthy of special mention in momentum injuries, viz., that a rapid recovery from the immediate effects of the injury which is quickly succeeded by recurring symptoms of profound brain pressure, is an invariable indication for operative interferences, as it usually indicates renewed and excessive hemorrhage.

Persons who have suffered at some previous time from momentum injuries form one category of those who go to the neurologist and surgeon for operations which should be looked upon as those of choice or selection. They represent a very considerable proportion of cases suitable for operation. Probably the major part of brain operations is undertaken for the relief of epilepsy arising remotely after injuries, and the prognosis, not only of the operation itself, but of the

effects of the operation in respect to the convulsive malady depends very largely upon the period of time which has intervened since the injury, and the duration and the length of period during which the epileptic seizures have manifested themselves. As a rule, such patients recover rapidly from the immediate effects of the operation, but unfortunately the same favorable prognosis does not appertain to the epilepsy itself. It must be remembered that the brain tissues have, to a very great extent, established the so-called "convulsive habit," which in all probability arises from an acquired irritability of the brain cells. This brain irritability may be a thing apart from the gross lesions occasioned by the injury and which, in the first place, had occasioned the epilepsy. If it were not for the secondary development of these finer cellular lesions the results of operation for traumatic epilepsy of long standing would be infinitely better than they have proved themselves to be after operation. In spite of this known experience, the benefit of any doubt should be accorded to the patient and the operation should invariably be performed.

Under "Operations of Choice" should be mentioned those, also, in which a fairly correct diagnosis of gross cerebral lesions, such as cysts or abscesses, can be established.

The prognosis of such operations, so far as it relates to the gross lesion itself and the symptoms occasioned by those gross lesions, is usually good, naturally taking for granted that the operation be properly performed.

Operations for brain tumors form another category, both as regards the difficulty of the operation and the prognosis to the individual. Everything depends, in these cases, upon the character of the tumor, upon whether the latter be a circumscribed, easily removed lesion, or whether it lie deep within the brain tissues, or at the base of the brain, or whether it be of the infiltrating variety of neoplasm. In order to remove the latter, viz., the infiltrating tumor, it is not unusually necessary to remove large masses of the brain substance itself, with the natural consequence of a loss of such functions as emanate from the brain tissue removed.

Not infrequently it is necessary to perform preliminary operations in cases of brain tumor for the relief of uncommon pressure occasioned by the skull over or near the region in which the tumor is located. Even where the tumor itself can not be successfully removed, the taking away of a large area of the cranium, and the consequent removal of the counter-pressure, affords the greatest relief to the patient for a considerable period of time, although it does not ultimately affect the serious outlook upon the life of the individual in question. Operations like this should be looked upon as being those of necessity, rather than those of choice. Practically, the same thing is true of cerebral conditions which at times arise, and in which the mere operation of trephining and drainage is capable of tiding over a period which would otherwise prove fatal. Whether in operations of choice or necessity, where a high degree of intracranial pressure is manifested, it would be well to caution against the opening of the dura until all of the bony structure, which it is necessary to remove, has been taken away. If the dura be incised too soon, in cases of this kind, the intense intracranial pressure may force the brain tissue through the dural opening, and this tissue may be badly damaged in consequence, and it may even prove impossible to return the protruding brain mass beneath the dura and successfully close the opening in the dura itself.

Another point worth mentioning, if one of the sinuses of the brain be penetrated, either at the time of injury or during the operation, and the hemorrhage from the sinus be successfully brought to a stoppage by any means whatsoever, whether it be by packing, or by pressure on the sinus, or by a clamp or suture, it makes no difference what be the mode of stoppage, the operator should content himself with having achieved this, and under no circumstances try to remove the agent or agents by which he has controlled the hemorrhage, for the time being. Several days may safely elapse, with the entire field of operation open beneath the protective bandages, before the operation be brought to completion.

I have upon several occasions either been forced by momentary conditions or

deemed it surgical wisdom to leave the cranium unclosed for periods ranging from a few days to several weeks with the very best ultimate results. In one instance, a patient from whom I removed a large brain tumor by three successive stages, the skull was kept open for seven weeks before final closure was accomplished. As a matter of course, the utmost care must be exercised to prevent infection—the only real danger to be feared.

1820 E. Tenth Street.

[Written for the MEDICAL BRIEF.]

Neurasthenia.

BY HENRY SNOW, M. D.,

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Cincinnati, Ohio.

Neurasthenia, though the subject of much discussion, remains of perennial interest to the physician, and especially so to the general practitioner, since the number of these cases is so large, and since many of them are best treated not by the specialist, but by the family physician. This is so because nervous prostration depends so much upon hidden causes and conditions which can be known only to the family doctor intimate with these causes or conditions, the latter oftentimes psychical.

This was forcibly illustrated to me some time ago. A gentleman whom I had treated for many years was accustomed every little while to have violent quarrels with his wife, after which he was forced from or would voluntarily leave his home and take refuge with his mother for a short time, when matters would be arranged and he would return home to remain until another outbreak. After many years of such conduct his mother fell ill and died within a few days. Following this event a great change came over my patient. He became more and more despondent, and in a short time presented all the symptoms of neurasthenia. Instead of coming to me, his friends induced him to call in a very competent specialist in nervous troubles. He was treated by this specialist for two years without any appreciable effect. One day I was surprised to see him walk into my office, being thoroughly disgusted with the treatment he had received. I treated him for some time without any better effect than his former doctor, when one day I was somewhat discouraged with the outlook, something induced me to say: "My knowledge of your life has led me to form a very positive opinion as to the cause of your trouble. I believe that as long as your mother lived, the knowledge that you had her to turn to when your home life became insupportable was a source of consolation to you which has been unfortunately removed, and your nerves, too long on the stretch, have at last given way. But," I continued, "I also think you are too much of a man to allow this state of affairs to dominate you and that as you gain strength you will learn more and more to depend upon yourself and stand firmly upon your own feet."

The effect of this simple statement was remarkable. His face became distorted with the violence of his feelings, and large tears rolled one by one down his cheeks. He finally conquered this outburst, and, rising, said only, "I will try," and left the office. From this time his improvement began, and in a short time was so marked that he would hardly be known as the same man. Nor has there been any sign of relapse. He has steadily grown better until now he can attend regularly to all his business affairs.

This case is, of course, an extreme one, but it illustrates the point I am trying to make, that the knowledge possessed by the family physician and the psychical encouragement which he in consequence is able to give often more than offsets all the scientific attainments of the specialist. I might quote many more cases of the same nature, but this one will suffice.

The treatment, then, of neurasthenia is first of all psychical, and some would say last of all, too, but I do not go that far. While man does not live by bread alone, neither does he live without it, and remedial measures must include rest, diet, hygiene and medicinal agents, including electricity.

Rest is the most important measure, and should be absolute or partial, accord-

pears, but it has simply entered the skin as sodium iodide. The writer has repeatedly demonstrated that by causing the vapor of chlorine gas to impinge upon an artificial conducting medium, after stopping the current, the iodine cloud develops at once, revealing its exact position.

In the ordinary operations of electrolysis with which we are familiar an effort is made to select electrodes which resist chemical attack, as gold, platinum or iridium.

The modern surgical cataphoric operation is done with a positive electrode of zinc amalgamated with mercury purposely selected with a view to the development of the chlorides or oxychlorides of zinc and mercury and their diffusion through the surrounding tissues.

A major operation of this kind is done as follows:

The one hundred and ten-volt direct Edison current, or a current of similar strength from a sufficient number (about sixty) battery cells is employed. An efficient controller must be inserted in the circuit best of the graphite type for turning the current on and off very gradually, without shock to the patient.

A milliampmeter capable of registering a thousand or fifteen hundred milliamperes should be in the same circuit with the patient for keeping track of the current strength employed. The patient having been thoroughly anesthetized, is laid with his back upon a broad clay pad, which should be large enough to cover the whole back and even extend down under the buttocks and under surface of the thighs. The clay electrode, soaked in warm water to increase conductivity, is in immediate and intimate contact with the skin, the lower surface being also in contact with the negative plate of sheet lead.

The positive pole is connected by a leash with three or four amalgamated zinc points, which are thrust into the substance of the growth to be destroyed.

The current is then turned on very gradually till the milliampmeter indicates a current of one hundred and fifty to two hundred and fifty milliamperes to each point, the total current rising to a strength of seven hundred or eight hundred milliamperes or more. Of course, care and circumspection must be used in the neighborhood of important nerve trunks, the phrenic, pneumogastric, etc.

By the cataphoric diffusion of the zinc and mercury salts the growth is gradually devitalized and converted into an odorless eschar, which subsequently separates.

The writer has long been impressed with the possible advantages of this method of treating malignant growths which originated in the hands of Dr. Massey, of Philadelphia.

During a recent visit to the American Oncologic Hospital, of Philadelphia, incorporated and put in operation within the last few months, for the treatment of cancer and tumors in general, my previous conceptions as to the value of this procedure were amply justified.

In this institution the cataphoric operation is in frequent use and gives excellent results. The advantages which can be fairly claimed are these:

1. It is a bloodless operation, which is a minor consideration, but one worth taking into account.

2. There is no effusion of lymph or creation of fresh surface during the operation. If there is any foundation for the growing feeling among surgeons that there lurks a possible danger in these operations of accidental re-implantation of cancer cells, this is a matter of prime importance.

It is, perhaps, not superfluous to call attention to the fact that according to such a conception the ordinary asepsis against bacterial invasion constitutes no barrier to cancerous re-infection, but may even facilitate it, as in the case of a successful skin graft, where asepsis favors cell preservation. In other words, is it possible that surgical care may promote the transplantation of morbid epithelium when it is not expected and not wanted?

These considerations, together with the actual results, indicate that the danger of recurrence is diminished.

A noticeable fact is the absence of pain after the operation and the absence of odor in the eschars, one of the most objectionable and repulsive features of handling these cases being thus removed.

1616 Main Street.

[Written for the MEDICAL BRIEF.]

Medical Ethics—Impressions of an Outsider.

BY J. HUGO GRIMM, ESQ.,
St. Louis, Mo.

The article on "Medical Ethics" by Dr. Jackson in the December number, 1904, of the MEDICAL BRIEF, which I have just read with interest, brings to mind an experience which I have recently had with the medical profession and its vaunted code of ethics. As a professional man, with a large acquaintance with physicians and surgeons, I have naturally felt a bond of sympathy for the members of a sister profession, assumed that, with an occasional exception, they were men of high character, truthful and with a well-developed sense of honor, and have acted upon this assumption. As happens to most lawyers who enjoy a considerable general practice I have been consulted at different times by persons who felt that their physicians or surgeons had not discharged their duty to them and who conceived that they had a good case for malpractice. Before taking any action I have invariably communicated with the physician in question, gotten his version of the case, and acting upon the assumption that he was honest and truthful, based my action upon his statement, with the result that all thought of legal proceedings was abandoned. In one case, however, in which, after a polite letter to the surgeon who was charged with unskillfulness and neglect, had met with no response at all, I brought suit after having laid the facts of the case before quite a number of surgeons, who gave their opinion quite freely, and without exception condemned the operation in question. After the suit was brought the defendant sent word to me that he thought he was being sued unjustly and could convince me that he had done his duty by my client, and even at that stage of the proceedings I took the trouble to call on the doctor and get his version of the case. As his statement only confirmed my opinion that the plaintiff had a perfectly valid and meritorious case, I determined that the case would have to be tried, and this brings me to the curious idea of professional ethics which I found to prevail among many physicians in this city. Those who had before the suit was brought expressed themselves freely in condemnation of what had been done by the surgeon in question, either begged not to be called as witnesses, or refused point blank to testify against a fellow-physician, giving me to distinctly understand that if I persisted in calling them that it would be a bad thing for my client. One of our distinguished surgeons, who was requested to examine the patient, and as a matter of fairness was told that a suit was pending growing out of the treatment, refused outright to examine the patient at all, and subsequently stated to me that in any suit against any physician or surgeon for malpractice, no matter how meritorious the case, nor how manifestly improper had been the treatment of the patient, that nevertheless he could have any amount of expert medical testimony to approve what he had done, as the profession considered it their duty to stand together and stamp out this class of litigation. I was naturally startled at such a bold statement, and said in substance: "Doctor, do you mean to say that physicians or surgeons of standing and character in the community would appear in court and deliberately testify that a certain method of treatment or operation was proper, when they knew that it was not?" and the answer was: "Yes, they will. When one is sued it is considered the duty of all the others to stand by him, right or wrong. There are so many suits of this character brought that we must do it in self-protection."

I could not believe that this man was sincere in what he said, for in my own experience I had found too many honest and honorable men practicing the profession of medicine. My subsequent experience, however, did show me that there is an unwritten law among a numerous class of practitioners of medicine in this city which forbids their testifying against a fellow practitioner, and that the penalty of a violation of this unwritten law is a species of ostracism. It seems that under their idea of professional ethics a physician owes no duty to the cause of justice, to his fellow man, or to the State; indeed, if he testifies against his brother physician, no matter how honest and conscientious he may be in his testimony, nor how

clearly correct he may be in his opinions, he is nevertheless condemned by his medical society brethren. I did not think before this trial that this state of affairs really existed, but now I know that it does. I discovered, for instance, not only that physicians who had given their opinion warned me not to summon them as witnesses, but at least one who was summoned disobeyed the summons, and another was opportunely "called" to a case in the country, where he tarried until after the case was closed. Not only this, but by a strange coincidence a medical witness who was summoned in this case and showed sufficient respect for the Court and the law to obey the summons and appear in court, was condemned by a number of highly ethical practitioners at a meeting of a medical society, even before he testified. At that meeting, which took place the day before he testified, the society being desirous of increasing its membership, those present suggested different persons whom they thought desirable as members, and, among others, the particular physician in question who had been summoned as a witness was suggested, probably without his knowledge. No sooner was his name suggested than a half dozen members were on their feet and protesting against inviting into the society a gentleman who was a witness for plaintiff in a suit against a fellow doctor. The mere fact that he was in court as a witness for plaintiff seemed to these gentlemen a sufficient excuse for attacking and criticising a person who was not present, and who had not even submitted his name to their consideration. That he was there in obedience to the command of the State did not make any difference; nor did the fact that in giving his testimony he gave it truthfully and honestly have any weight. Indeed, as already stated, he had not even testified. The mere fact that he was subpenaed as a witness against another doctor was sufficient. One well-known elderly physician who was present at the meeting was so indignant that he delivered two speeches. In one he criticised a doctor who would give an opinion in a case he had not seen, yet with that indifference to consistency which characterizes some brilliant minds, he himself attended the trial in question for several successive days to testify for his brother, if need be, although he himself had never seen the case.

When physicians who claim to be the personification of the ethical, and who assume the right to pass judgment on their brethren, entertain such ideas of right and duty as already indicated; when it has become a matter of common knowledge that distinguished medical experts can be found to express almost any shade of opinion that may be desired, and that the majority of them will not only deny their aid to any attempt to hold another physician responsible for his wrongful or negligent acts, but will stand by him, right or wrong, with a loyalty and steadfastness surpassing that of any known organization of men, is it a wonder that expert medical testimony is regarded with suspicion by courts and juries and, indeed, by the general public, and only too frequently spoken of with contempt?

Would it not be far better for the profession, instead of banding together for mutual protection and, in some cases at least, conspiring together to defeat law and justice, would it not be better and more profitable for them in the end if they acted upon the maxim, that "Justice must be done though the heavens fall"—*Fiat justitia, ruat cœlum*—and show that same regard for truth and right in this class of cases that they would in any other?

Does a physician or surgeon discharge his duty to the community at large or to his own profession or to himself when he exerts all his ingenuity and ability to make that appear right and proper which, in his own heart, he knows was wrong and deserving of condemnation? Is not the unfortunate who suffers from injury or disease entitled to careful and conscientious care at the hands of the physician to whom he must, of necessity, entrust his life? And if the physician is derelict in the discharge of the sacred duty devolving upon him, should he not be compelled, so far as possible, to make good the wrong he has done? Instead of banding together to stamp out all malpractice suits, would it not be more honorable and profitable too, for the profession to be just, fair and outspoken, for then not only would the unjust cause be defeated and groundless

litigation discouraged, but professional carelessness, indifference and incompetence would become less common, and besides the consciences of some expert witnesses would be relieved of a very considerable strain. That I may not be charged with being unfair or making my condemnation too comprehensive, I wish here to bear cheerful testimony to the fact that I have met with some medical experts who testified for their colleague in the very case to which I have referred, and who gave every indication of being honest and conscientious in their testimony; but the fact remains that the generality of the profession is unfortunately open to the criticisms heretofore made, and the sooner these gentlemen see the error of their ways the better for the honor of the medical profession. They are sadly mistaken if they believe that the community is deceived; the esteem in which expert testimony is held by the public at large shows the people are very wideawake. I, therefore, commend these lines from Burns to the consideration of the experts:

Oh! would some power the giftie gi'e us,
To see ourselves as others see us.

Fullerton Building.

[Written for the MEDICAL BRIEF.]

Proctitis and Sigmoiditis.

BY R. D. MASON, M. D.,

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Inflammation of the different mucous membranes are very common and manifest their presence in different ways, according to the part affected, and whether acute or chronic. The causes that will produce the disease in one place will do so in another. A sudden chilling of the body may cause a so-called cold in the head, and sleeping on cold, damp ground may cause a proctitis, which if left untreated may become chronic, and we have the chronic diarrhea so often found among elderly people, especially old soldiers.

There may also be a specific inflammation of the rectal membrane, generally due to indirect causes, as diphtheria, gonorrhea, etc., accidentally carried from some other part of the patient's body to the anal or rectal membrane by means of instruments, fingers or syringe nozzles, or by the discharge from the vagina flowing over the parts.

Among the causes, in addition to those already mentioned, probably the most common one is traumatism, either from within or without. From within serious injury may be the result of substances swallowed, as pins, fish bones and other foreign substances. All such things will pass through the stomach, small and large intestines without difficulty, but lodge in the rectal pouch and set up an inflammatory process that may result in a general proctitis or possibly an abscess. I have frequently taken such things from abscess cavities in this region. The disease may also be caused by the retention of hard, dry, impacted fecal matter, which is very irritating. Those causes which act from without are contusions and punctured wounds. It is not very uncommon to have the bowel wall punctured by the rough use of instruments or the finger in making an examination.

In a recent issue of the journal of the American Medical Association, Dr. Howard Kelley cites several cases where the wall of the bowel was punctured by the examining finger. This is more likely to occur in old people. In case such wounds are uncared for a proctitis or peri-proctitis would result that might prove fatal. Kelley says such wounds should be repaired by opening the abdomen and stitching from the peritoneal side. Owing to their being so low in the pelvis it seems to me that this would be extremely difficult to do.

In the chronic form of the disease, in addition to the rectal inflammation we almost always have an extension to the sigmoid and the whole descending colon may be affected.

In acute proctitis the pain is very great and is accompanied with tenesmus and considerable constitutional disturbance. There is a constant feeling that there is something more in the bowel, even after the patient has just left the commode, but this is due to the swollen mucous membrane.

When the disease becomes chronic there is not much pain, except on deep pressure

over the sigmoid. The desire to go to stool, while not constant as in the acute form, is still very troublesome and there may be from ten to twenty bowel movements daily. This takes place more often in the morning rather than any other part of the day, and it is not uncommon to have four or five bowel movements in rapid succession containing bloody mucus or clear mucus resembling jelly and followed by a solid stool. The patient may then pass the rest of the day with but little discomfort.

In its early stages it is difficult to diagnose the disease from cancer of the sigmoid, but as the latter is essentially chronic, while cancer runs its course in two or three years, and as the sigmoiditis does not, as a rule, come under the doctor's care until it has run for some time, the diagnosis is not hard to make. A microscopical examination of the discharge should be made to differentiate between the common inflammations and amebic dysentery. As the amebæ are not active in cold solutions the examination should be made while the matter passed is still warm.

In the chronic form of the disease the membrane of the sigmoid, when examined through the sigmoidscope, has a very dark appearance and looks like fresh, raw beef, and in some instances blood may be seen oozing from the bowel wall.

Treatment in the acute form consists in rest to the inflamed part, a carefully-selected diet, and the use of mild antiseptic astringent solutions. The one great difficulty in treating proctitis is the lack of drainage. The products of inflammation are retained behind a tight sphincter muscle and the greater the inflammation the more firmly does the muscle contract. This is true to such an extent that often it is only with the greatest difficulty that a bowel movement may be had or an irrigator tube introduced. In such cases the patient had better be put under the influence of an anesthetic and the sphincter divulsed. In punctured wounds, where the bowel wall is torn and pus has formed, it may be necessary to cut the muscle posteriorly, so that proper drainage may be obtained. There is no one thing that assists Nature in bringing about a cure in a diseased organ that is acutely inflamed so much as rest. For this reason in acute cases the patient should be kept in bed and fed only highly-concentrated food, such as will leave practically no residue to pass away. In fact, if almost no food is given for a few days it will greatly assist in the cure. Another reason why the recumbent position should be insisted upon is that the rectum and sigmoid are drained by the middle and superior hemorrhoidal veins, which have no valves and go direct to the liver through the portal system, and when the patient is standing the weight of this entire column of blood has to be lifted by the heart, while if the patient is lying down gravity will greatly assist in keeping the parts from excessive congestion.

In the acute form it is not very common to have an extension to the sigmoid, and for this reason any injection used need not be forced above the rectal pouch. A double current rectal irrigator should be used, or if this is not at hand an ordinary soft-rubber catheter may be introduced with the syringe nozzle for the return flow; by shutting off the outflow tube the rectal pouch may be filled to its fullest capacity. The remedy that has given me the greatest satisfaction is fluid hydrastis in twenty-five per cent solution. Weak solutions of zinc, copper, etc., are useful, as are also the new preparations of silver, in from five to ten per cent solutions. Silver nitrate should not be used in acute proctitis, except in very weak solutions. In order to control the constant desire to empty the bowel some local opiate is needed, and nothing is better than two or three ounces of starch water to which has been added from ten to thirty drops of tr. opium. This may be repeated as found necessary.

Specific proctitis is not often seen and is generally due to gonorrhea. The line of treatment should be the same as that followed in treating the disease in other localities. The bowel should be irrigated with large hot permanganate solutions of from three to five per cent in the early stages. In the later stages of the disease astringent solutions should be used and a good formula is the following:

℞ Zinc Sulph.....	12	grains.
Bismuth Carb.....	2	drachms.
Liq. Hydrastis (colorless)	½	ounce.
Aquæ Dest., ft.....q. s.	2	ounces.

One-half of this may be added to an equal quantity of water and injected and allowed to remain.

In treating the chronic form of the disease we meet with a more difficult problem, as the sigmoid and often the descending colon are affected, and irrigations must be forced above the rectal pouch. Most writers on this subject advise the use of the long rectal tube, but I have found from experience that it is exceedingly difficult to introduce this instrument into the descending colon. I have used the utmost care in trying to do this and have congratulated myself that the tube was in almost its full length only to find that it was coiled in the rectum. My plan for irrigating the bowel is as follows: Have the patient lie on his back with the hips well elevated. Have the water very hot and the irrigator not more than two feet above the table; use a short nozzle, not more than three inches long; let the water run very slowly, and if the patient says he can not hold it, stop the flow until the desire for an evacuation passes away and then start it again. It is only the first few ounces that causes the desire for an evacuation to be felt, and as soon as the water begins to flow into the sigmoid this will pass away, as a rule. If the sphincter is very lax push the syringe nozzle through a small roller bandage and then into the bowel and sufficient pressure may be made against the sphincter to prevent the loss of water around the nozzle. By using a double-flow catheter and compressing the outflow tube at intervals the colon may be flushed with sterile water or salt solution, after which such medicated solutions as may be preferred may be run in and allowed to remain. This thorough flushing of the colon should not be done more than two or three times a week at first and later not more often than once a week. In case there is much blood in the discharge a solution of silver nitrate seems to do more good than any other remedy. It should not be stronger than one-half of one per cent at first, and may be gradually brought up to two or three per cent. It should not be used more often than once a week, and if it causes much pain it may be followed by the normal salt solution, but this should never precede the silver.

In case amebic dysentery is present the solutions used should be cold, as the ameba can not live in a low temperature. Tuttle claims to have cured several cases with ice water. A line of treatment which consists mainly in giving large doses of epsom salts has proven very successful, mainly by keeping the colon clear of irritating material. This constant cathartic action of the drug is very depressing to the general health and really accomplishes no more than irrigation with salt solution.

Great care should be taken with the diet and only the most easily digested, nutritious food given. Tea, coffee, and all alcoholic drinks should be prohibited. The treatment in the chronic form of the disease is necessarily slow and tedious, and requires considerable time, but if carried out faithfully will generally result in a cure.

Should it be found impossible to bring about a cure by the methods outlined, a colostomy may be done and, by diverting the fecal current, give the bowel complete rest, or an opening may be made in the cecum and by means of a catheter the treatment may be carried on, both from above and below, as recommended by Gibson.

500 Brown Block.

[Written for the MEDICAL BRIEF.]

Pneumonia.

BY IRA W. UPSHAW, M. D.,
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Pneumonia in this latitude is one of our most common diseases and at present very fatal under some lines of treatment; therefore, it is necessary that one should be able to diagnose it in the early stages and abort the same. Usually we see our cases pass from simple attacks of congestion to cases of true pneumonia while we wait for the bacteriologist to find Frænkel's diplococcus. This accounts for the high death rate which some physicians report. On being called to a case of pneumonia we get first a history of undue exposure, followed by chills, either slight and indefinite or severe, according to the

In the interstitial nephritis the pathological condition extends not only to the tubules, but to the glomeruli and other portions of the kidney. In this form we must examine constantly for the presence of blood and the more severe conditions indicated by the urine. I would continue the treatment here with the water, and in addition apply hot fomentations to the kidneys and small of the back. Care must be taken not to confuse suppression with retention of the urine. In doubtful cases, percuss the bladder, and use the catheter in order to clear up the diagnosis.

A liquid diet should be given through the entire stage of the disease. Meats, eggs and all the liquids from meats should be rigidly excluded in favor of the diet best calculated to prevent complications in the kidney. The diet should be confined to milk. A number of observers have called attention to the fact that children fed exclusively upon milk have been freer from kidney complications during the disease. The milk may be in the form of koumyss, or buttermilk may be used as a substitute for sweet milk, which latter is, of course, the best preparation. This diet should be continued for five or six weeks, and if there is any symptom of nephritis, it should be further continued until such symptom has disappeared. It is a well-known fact that nephritis in these cases may become sub-acute and chronic; that even after it has apparently run its course, if the child has not been watched carefully, it may within one or two years subsequent to the disease, one may have a recurrence of the interstitial nephritis upon the slightest provocation, which may result in death.

In order to prevent the spread of the disease the excreta should be disinfected daily.

Next to the patient himself, there is nothing more contagious than the room in which the patient has been kept. The walls should be washed down with a bichloride of mercury one two-thousandths. Everything that can not be steamed should be destroyed by fire. The room, if papered, should be repapered before being occupied again. The head and body of the patient should be thoroughly washed with a one ten-thousandth bichloride of mercury solution. And a room vacated by a scarlet fever patient should not be occupied for several weeks after it has been disinfected. If sulphur is used as disinfectant it should be used in a moist atmosphere in order to be germicidal.

The Chalfant.

[Written for the MEDICAL BRIEF.]

Medical Witnesses.

BY GEORGE SAFFORD, M. D.,

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It is a lamentable fact that during the past few years, in large cities, opinions of experts, like the votes of Massachusetts' legislatures, have been "bought and sold like fish upon the market," until the bench and bar have come to look upon expert testimony with suspicion, and speak of those who give such evidence as "professional witnesses."

That this condition of affairs is due, in part, to the fact that our colleges do not require as high moral standing of their students as in earlier years, can not be denied. We can not, however, with reason, assign this as the proximate cause of the sudden commercialism of opinion witnesses who now assist manufacturing and street railway corporations in depriving helpless litigants, by perjured testimony, of rights so begrudgingly dispensed from year to year by "astringent" legislatures.

It has been urged that the person who testifies falsely as to matters of opinion can not be punished for perjury, but it is well settled in law that experts may knowingly testify falsely as to matters of opinion, and that if this can be proven they can be convicted of perjury.

But that a witness does not entertain the opinion he claims is very difficult to prove, hence those who give false testimony as to matters of opinion usually go unpunished and the injured litigants are left without recourse.

That testimony as to matters of fact is false is more readily proved, hence it is

more dangerous for lay witnesses to knowingly testify falsely.

Perjury is made a felony and prohibited under severe penalty by the statutes of every State of the Union, but it has been winked at or overlooked by so many prosecutors for the last few decades that the public mind has become oblivious to the law on this subject, and the testimony of many witnesses in court at the present time sounds more like the deductions of Sherlock Holmes than simple statement from memory of facts.

Given an adequate "encouragement," and with the superior intellects necessarily possessed by those who can qualify as experts, and with the fear of punishment removed, how confidently they sit upon the witness stand, defy the cross-examiner, befog the minds of the jury, and make a hollow mockery of justice, until some careful inquisitor either removes the mantle of hypocrisy by ingenious questioning or by proving the witness' "expert professional career."

Expert witnesses may testify upon any subject concerning which they are qualified, provided such subject is not usually understood by the ordinary mind.

Upon subjects that have been reduced to an exact science the witness can not so readily conceal his disposition to mislead. It is different, however, with medical witnesses, as the subject of medicine is not an exact science. The minds of learned men may differ in many ways and the witnesses know that whether their opinions are correct or not they can find some writer who appears to agree with them, or at least to corroborate their views.

It is the duty of physicians who are called upon to testify as experts, unless compelled to attend under certain statutes that have been recently passed, to decline to make any examination or testify unless they can make an *impartial* investigation and go upon the stand without any interest in the outcome of the trial.

I do not mean to cast any reflections upon those who charge for their services as experts. It is customary to pay expert witnesses for making examinations and to allow them an adequate, even liberal, reward for their testimony in court, and ten years' experience at the bar has convinced me that professional men should always receive a good and full remuneration for their services. Compensation alone can not bias, for compensation is intended only to purchase an impartial investigation and a correct opinion. What I wish to condemn is the practice of physicians going upon the stand in cases where they have formed opinions as to the general merits of the controversy, or by reason of their political, religious or other associations, have become either prejudiced against their opponent or interested in favor of their patient.

In a personal injury case against a street railway company recently tried in the Circuit Court of this city, one of the judges, whose title is now graced with the prefix Ex-, although several examinations of the plaintiff had theretofore been made by physicians selected by the defense for that purpose, appointed a doctor of political repute to make another investigation and ordered the defendant to submit to the annoyance of an inspection.

I do not say this was done to favor the defense by giving it a witness who could not be criticized before the jury when the physicians who had examined the plaintiff at the request of the defense would have been considered partial on account of their business relations with the defendant, nor do I say it was done to give the testimony of a witness adverse to the plaintiff greater weight by reason of the court appointment, but on the witness stand plaintiff's counsel got the physician to admit that he was the family physician of the defendant's lawyer who asked the court to make the appointment, and the judge admitted that the doctor was his family physician also, and afterwards granted a new trial as to the defendant represented by the attorney in whose family the doctor served.

The cross-examination developed the further fact that the same physician had frequently been appointed by the court to examine plaintiffs in personal injury suits against the same defendant, and in these cases I learn his testimony was always favorable to the railway company.

It seems almost needless to add that the doctor's testimony was very unfavorable to the plaintiff and that the jury in fixing the amount of their verdict failed

to consider his opinion and awarded the plaintiff the sum of four thousand dollars as compensation for the injuries he had sustained.

In a case brought in the Probate Court in this State, two or three years ago, in which the court was inquiring into the mental condition of an old German lady seventy-seven years of age, although three of the most eminent alienists in the City of St. Louis testified that she was sane and capable of managing her own affairs and suffered from no other mental trouble than a slightly impaired memory; and although her neighbors testified that they were of the opinion she was mentally sound, a noted psychiatrist holding an eminent political position, which he secured through the party and political club to which the attorney prosecuting her belonged, testified that she was of unsound mind and incapable of managing her own affairs. He gave as reason for his opinion, however, the following facts:

1. At one time when asked her age she said she was sixty-seven years old, and at another time in answer to the same question, told him she was seventy-six, and a few days later, replying to a third question of a similar nature, informed him she was seventy-seven years of age.

2. When asked if her attorney, who was defending her in the proceedings brought to have her declared insane, had any business for her, she replied, "No, he got not any business for me."

3. When asked how many children she had had she informed him that she had had six, and when called upon a few days later to name her children, she only gave the names of four.

4. When asked where her granddaughter and her two little children slept, the house having but three rooms, she replied, "in there," pointing to the parlor, and when he looked into the parlor there was no place whatever there for them to sleep.

For these reasons he claimed he was of the opinion that her memory was so impaired she did not remember her own age; in fact, had given three different ages during the same month; that she could not remember that she had employed her attorney to defend her in the proceedings pending against her; that she could not remember to how many children she had given birth—the one thing a mother always remembers, and that she had not mental power enough to enable her to tell where, out of three rooms, her granddaughter and little children who were living with her, slept, so, of course, could not remember well enough to attend to the management and disposition of her property.

On cross-examination, he admitted that in the German language the numbers were spoken in the reverse order from what they are in English, and that German people in speaking in English, a number with two figures, very frequently speak the last figure first, *i. e.*, reverse the order of figures making seventy-six sixty-seven; also that the Germans speak of "business" as a store wherein things of an ordinary nature are bought and sold and would not consider the work done by an attorney a *business* at all. It further appeared from the testimony of other witnesses that a little old-fashioned sofa, covered with haircloth, had been so reconstructed that it opened up, forming a bed in which the granddaughter and her children actually slept in the front parlor, and several of the defendant's children testified that two little marble tombstones in Bellefontaine Cemetery marked the graves of two of her children who had died unnamed, thus explaining why on one occasion she had told the doctor she had had six children and a few days later when asked to name her children, gave the names of but four. They also told of a birthday party by which she celebrated her seventy-seventh birthday after she told the doctor she was seventy-six and before she told him she was seventy-seven years of age.

With one exception, the only lay witnesses who testified unfavorably to her were beneficiaries of a will she had made, conveying to them $15,000 worth of real estate and which they admitted they suspected she was about to change unless prevented from so doing by a successful termination of the proceedings brought against her.

It was the first time in ten years of active practice I ever saw a juror rise and with tears in his eyes tell the court,

before the defense introduced any testimony, that the jury had heard enough of such evidence and was ready to bring in a verdict in favor of the defendant.

It is conceded that the best experts may be mistaken, even in ordinary cases, but it is strange, indeed, their mistakes should occur under such suggestive circumstances, and I can not help but feel that if medical witnesses would be careful not to testify in cases where their interest is apparent there would be much less actual prevarication, as well as less frequent error. This would not only give the medical profession a higher standing, but would give judges and juries more confidence in expert testimony, so often indispensable in courts of justice.

Commercial Building.

[Written for the MEDICAL BRIEF.]

The Treatment of Catarrhal Pneumonia in Infants and Children.

BY HARRY TYLDESLEY, M. D.,

Member Muhlenburg County Medical Society: Member Kentucky State Medical Society; Associate Surgeon Illinois Central Railroad, etc. Central City, Ky.

From September to May, the most prevalent disease among infants and children is catarrhal pneumonia. Not only does the disease entail much suffering, but an examination of mortuary tables will show that it is responsible for a large percentage of deaths. The importance of the disease can not, therefore, be lightly considered. The sick-room should be light and as cheerful as possible. All that tends to render the child fretful, or that which will interfere with its repose, is to be removed—as nearly as this is feasible.

The temperature of the sick-room should not exceed 70° F., and an average of 65° F. is best. When the temperature of the sick-room exceeds 70° F. it exerts a depressing influence on the patient. I am convinced that a moist atmosphere, as advised by some observers, is of little practical value. It is not possible to accomplish this, in many instances.

The diet of these patients is a matter of importance. The infant at the breast will be allowed to nurse as he may desire, but when he does not desire food, as is the case with older children who have the disease, we shall have to give them milk and concentrated foods. This may be overdone, and I never worry about the nutrition of my patients for the first few days. Unless the patient has been ill four or five days, the demand for predigested foods and forced feeding does not, I think, exist. The patient should be offered foods, but the physician will in many instances see the futility and the prejudicial effect of forced feeding when the state of systemic nutrition does not call for it.

Formerly it was considered essential to the successful conduct of a case of either catarrhal or lobar pneumonia, that the portion of the chest wall over the affected pulmonary area be blistered. This view is now relegated to a truly historical position. Poultices were thought of great value at one time, and some ever now advocate their employment. It is impossible to think that they are of value. They can not in any way affect the pulmonary inflammation, and can not, therefore, be of value. The application of stimulating liniments to the chest walls is for the same reason worthless. I formerly advocated the encasement of the child's thorax in cotton batting, and this was held in position by flannel or other cloth. I am now convinced that this is not only worthless, but even prejudicial at times. It may be prejudicial by interference with full respiratory movements, and by retention of the heat, and by the discomfort entailed. Again, this bandage can not in any way influence the inflammatory process in the lungs.

As a remedy that favorably influences the disease, I think quinine without a peer. Prof. Loomis declared it capable of modifying and thereby abbreviating the disease, and my experience has fully borne out his view. As soon as called to see a patient ill of catarrhal pneumonia I put him on quinine. A child five years old is given two grains every three or four hours, and this is kept up until the fever has ceased. Younger children and infants are given proportionately smaller doses—an infant of one year is given a half grain every two hours. I give the quinine mixed with aromatic syrup of

yerba santa. This renders it entirely tasteless and even pleasant to the palate. I direct nurses to exercise care that the bottle is thoroughly shaken before being given to the child. Otherwise the dose would not be equal. It is well to give bromide of potash, in doses of two and a half to five grains, every four or six hours, as long as the quinine is being administered. This prevents the undue cerebral congestion which quinine, unfortunately, nearly always engenders. It can be combined with an expectorant cough mixture, and thus avoid the necessity of having the child take so many different medicines.

I give an expectorant and diaphoretic mixture throughout the course of the disease. This favors proper action of the skin, and the expelling of mucus from the tubes, and serves us, I think, a good purpose. The following is a prescription that answers quite well:

℞ Paregoric .....1¼ drachms.
Syrup of Ipecac..... ½ drachm.
Water enough to make .....3 ounces.

A teaspoonful of this can be given every two, three or four hours, as may be deemed necessary. Bromide of potash can be added, as already stated, to this prescription.

When the pulse volume is not full, or when there is evidence of cardiac weakness of any degree, we should begin with the employment of alcohol and continue its employment until the symptom is no longer in evidence. I generally order port or angelica wine for children, because they are sweet and grateful to the palate. But often toddy will be preferred by the patient. I am indifferent as to the alcoholic selected, but I insist that the one selected be given with the greatest freedom until the pulse volume is made good. This point should be fully impressed upon the nurse. I tell them to give any amount—at any and all times, bearing in mind the central idea—the heart must be kept beating regularly and as nearly as possible as it is in health. An intelligent nurse who thoroughly comprehends this instruction will bring to recovery many patients who otherwise would die. Strychnine I never give except in cases where I wish to stimulate the heart quickly, as in emergencies.

Digitalis, in my opinion, is not called for in these cases. If the quinine mixture is given we shall rarely find fever rising to a dangerous point. If it should, however, we may with propriety give some antipyretic drug. This, mixed with an alcoholic, will accomplish good results. In the greatest number of instances it will be found impossible to employ cold or tempered baths. Such treatment of a fever would often, if resorted to in general practice, where warmth of houses is generally deficient, result in many disasters.

After recovery from the acute disease, the patient must be treated for the secondary anemia and bronchial catarrh which remains. Wine of cod-liver oil is an excellent tonic, and should be given until the anemia and the debility are no longer existent.

Creosote is the best remedy for the bronchial catarrh. This can be given in emulsion with extract of malt, and made acceptable to the stomach.

[Written for the MEDICAL BRIEF.]

American Social Degeneracy.

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Social Progress.—There exists more or less skepticism in certain parts of our country in regard to the stability and perfectibility of our political and economic institutions. No one believes that things can remain as they are. Everyone knows that the world has never been quite at a standstill, and we either go forwards or backwards.

What, then, is progress? Does it mean one thing for the theologian, another for the political reformer, and yet another for the philosophic sociologist? No; this is impossible. The unit of progress is the condition of the mind and brawn of man. This is the factor which shapes the morals, forms and regulates the laws of the land. What it needs for development is only opportunity and a consciousness of an inner abiding strength. In fine, the secret is its phase of freedom, and prog-

ress is impossible wherever that is lost, for without it there would be no struggle for better conditions against a doomed destiny in nature, a lost soul, and despotism in the government.

Home Influence in Social Progress.—It has been remarked that animals and savages for this reason have no history, but live and die in the fixed monotony of nature. And evolution from a savage state, according to the late John Fiske, should be ascribed to the prolonged period during which the offspring are under parental protection. If the parental instinct is not the strongest thing in human nature, it is only less general and profound than that desire of life which reigns over all conscious existence. It is this sentiment that makes the home, preserves the family and the race, and makes human society at once possible and desirable. And it is by this method that the round of nature is advanced to the plane of history. Therefore, in order to understand the condition of civilization of any country the inquirer must first familiarize himself with the essential feature of its domestic life.

Domestic Conditions in the United States.—Probably no country in the world has been affected by the changes in the domestic life more than the United States. Fifty years ago the home was almost everywhere a more permanent establishment than it is to-day. In this day of travel, of world-wide enterprise, worship of the dollar, over-taxation of mind and body, mental gluttony, lost power of total relaxation of mind and body, stress of competition, and low wages of the laborer and high prices of the necessities of life, neglect of religion, the little brood that once gathered at the mother's knee and family altar, are, after a few years, compelled, if not blessed with the good things of life, to scatter to the ends of the earth in order to obtain a livelihood.

It is impossible to recognize these conditions without some degree of apprehension. We are growing more cosmopolitan. Even the artist and novelist no longer cares for provincial subjects. Like the Athenians and Romans, we are not content with developing our own resources and enjoying our riches, but have an abnormal, insatiable thirst to possess more than we can enjoy. We must return from other lands laden with wealth and spoil, like the Roman conqueror was accustomed to return to the Eternal City for his final triumph. We must entertain our friends with unrivaled extravagance in Lucullian style, fill high the bowl with Samian wine. While we live let us live, for to-morrow we may die, or our stocks depreciate in value in the frenzied money markets. What time have we, or care, for to-morrow or unborn generations? What difference does it make whether our houses are of stone or wood? They will last our lifetime. In this struggle let every fellow take care of himself. I have as much as I can do to look after myself. This is the modern way of looking at things and their possibilities. Society, originally, as we have seen, the product of the home, is now reacting upon the home, depriving it of its sacredness. Thus, mother is not the same loving, sacred woman she used to be, and often she is not acquainted with her own family, sometimes to their good. Again, a great number of the young working women in this country have left home, not because of any actual necessity, but only to procure money enough to buy finer clothes. There are, of course, two sides of this, as well as every other question. The one that interests us is the effect of this condition of affairs on the physical well-being of our country in her economic position as a wage-earner.

1435 Polymnia Street.

[Written for the MEDICAL BRIEF.]

Pneumonia.

BY ONSLOW REAGAN, M. D.,
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In a past issue of the MEDICAL BRIEF, the Editor called for an expression of opinion from the profession as to the results of therapeutic agents in the treatment of pneumonia. Speaking from an experience of results of thirty-eight years in an unlimited practice, with only two deaths, and those infants under two years of age, of broncho-pneumonia, must say that pneumonia, under a specific line of treatment, properly administered, is more tractable to treatment than most fevers, and demands the most vigorous treatment, except pernicious chills.

[Written for the MEDICAL BRIEF.]

Addison's Disease.

BY WILLIAM TIBBLES, LL.D., L. R. C. P., M. R. C. S., ETC., ETC.,
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Among the various discolorations of the skin, Addison's disease holds an important place on account of the constitutional changes which precede and accompany it, its frequently fatal termination, and its association with disease of the supra-renal bodies. These organs have functions which even now are not thoroughly understood, but we may include among them (*a*) the elaboration of a secretion which is essential to the blood (hemopoietic); (*b*) the destruction of effete products of metabolism, especially of hemoglobin; (*c*) and nervous functions which are closely associated with those of the great sympathetic system of the abdomen, especially with the semilunar ganglion and solar plexus.

While excessive or irregular pigmentation of the skin is one of the most striking phenomena of Addison's disease, it can only be considered to be a cutaneous manifestation of a deep-seated malady, for there is serious constitutional disturbance. The discoloration may affect the entire surface, so that in a typical case the body may have the appearance of a mulatto or a bronze statue, the color being bronze, olive green, greenish or yellowish brown; in others the discoloration may be very partial, consisting of large patches with convex margin, or in which the deeply pigmented area gradually fades into the normal color of the skin; and occasionally some of the large pigmented areas have in them secondary patches of skin from which every vestige of pigment has been removed and which appear of an almost silvery whiteness, contrasting remarkably with that of the pigmented area. Such partial pigmentation and decoloration show a serious disturbance of the mechanism which governs the production and distribution of pigment in the body.

The early stage of the disease is marked by a gradually increasing debility, breathlessness on exertion, a rapid, feeble pulse, and weak heart sounds, which may occur before any discoloration of the skin is perceptible. As the disease becomes established the patient complains more and more of a dull aching pain in the epigastric and one or both hypochondriac regions, which are probably at first mistaken for dyspepsia or liver trouble, but palpation elicits tenderness in these regions. During the further progress of the disease there is increasing debility, giddiness, a tendency to fall on rising from the bed or couch, and in some persons faintness is easily induced; the epigastric or hypochondriac pain persists, and anorexia, nausea, vomiting and occasional diarrhea are common; but the nutrition appears to be maintained; at any rate emaciation is not an ordinary symptom of the disease, and the temperature remains normal or subnormal.

Many of the above symptoms give to the disease a complexion similar to that arising from various forms of auto-intoxication, and as the supra-renals are in part depurative organs, it is probable that the increasing debility, giddiness, cloudiness of intellect, nausea, vomiting, diarrhea and similar symptoms are due to poisoning by bodies (probably leucomaines) which result from the destruction of red-blood cells, and the staining of the skin to the circulation of products resulting from the destruction of hemoglobin. At the same time, it should be remembered that the tubercular or malignant process which is going on in the supra-renals in many cases of Addison's disease is accompanied by degenerative changes in the semilunar ganglia and branches of the solar plexus; that such a disturbance of the great splanchnic nervous system could not occur without corresponding subjective changes such as indigestion, nausea, vomiting, diarrhea and disturbance of the heart's action; it is therefore probable that disturbance of the sympathetic system of nerves and auto-intoxication are both concerned in these results, while progressive caseation, or spread of malignant infection, may hasten the fatal termination.

The diagnosis of this disease from other forms of dermal pigmentation is important:

(*a*) In Addison's disease the constitutional disturbance, the remarkable color

of the skin while the sclerotics remain unpigmented, the appearance of pigmented spots on the mucous membrane of the mouth and tongue, a dark line on the lips at the junction of the skin and mucous membrane, similar lines or spots on the palms of the hands or soles of the feet, the epigastric or hypogastric pain, sickness and rapid pulse, present points which are considered to be pathognomic.

(*b*) Jaundice of the ordinary type causes the skin to be yellow, the sclerotics are similarly colored, and the addition of nitric acid to a few drops of urine reveals the presence of bile in it. Chronic jaundice may cause the skin to be brown, or even of an olive tint, but the sclerotics are colored, the urine contains bile and the pulse is slow.

(*c*) In malarial cachexia the skin is of a sallow earthy tint, the spleen may be enlarged, and there is a history of malaria and residence in a malarial district. The temperature may be frequently above normal, but in Addison's disease it is normal or subnormal.

(*d*) In malignant disease the skin is of a sallow color, and there are enlarged glands and probably the history of a growth somewhere. In Addison's disease the glands are not enlarged unless it be due to malignant disease of the suprarenals. In Addison's disease the nutrition usually remains good; in cancer there is rapid emaciation. Addison's disease occurs in early adult life; cancer in middle or later life.

(*e*) The color of the skin in chlorosis and pernicious anemia, which are attended by shortness of the breath, etc., is yellowish green and scarcely to be mistaken for the brown or olive green of Addison's disease, besides which the history of the case and the sex are other points which readily help in distinguishing what may be confirmed by an examination of the blood.

(*f*) In chloasma uterinum the color is brown or yellowish brown and is very noticeable on the forehead, temples and cheeks, and is accompanied by dark circles around the eyes and an increase of pigment around the nipples, in the axilla and along the tenia alba, and is associated with pregnancy or other uterine disturbance. The distribution of pigment in Addison's disease when not universal is usually in large patches upon the back, abdomen, chest, back of the arms or hands, and even on the face, axilla, around the nipples and along the tenia alba. But the circumstances attending chloasma are such as to render its being mistaken for Addison's disease—only a temporary matter; and the constitutional signs of the latter will usually soon displace a diagnosis of the former.

(*g*) Tinea versicolor could scarcely be mistaken for Addison's disease, for it presents no sign of constitutional disturbance, it readily desquamates, and an examination of scrapings of the epidermis under the microscope reveals the presence of microsporon furfur.

(*h*) Lentigo or freckles consist of yellowish brown spots on the face, neck, forearm and back of the hands from exposure to the sun; they are most marked in the summer time and fade or disappear in the winter, and mostly affect youthful persons with fair hair and blue eyes. There are other patches, varying in size from a quarter to three or four inches in diameter, of a yellowish fawn color, called liver spots, which may be distinguished from Addison's disease by the general health not being disturbed. Of a similar nature are the large mottled patches of brownish yellow pigmentation which are seen on the back of the forearms and front of the legs of those who are in the habit of sitting near a large fire or are otherwise exposed to great heat.

(*i*) In leucodermia there are patches of white pigmentless skin of irregular shape and convex margin, usually having an aureole of darker color than normal, which fades away into the color of the surrounding skin. The hair over the white patches loses its color, but excepting for the loss of pigment the skin appears to be unchanged. It is more common in dark races and the residents of hot climates than in the light-skinned denizens of temperate regions; in any case the discoloration is not preceded by a recent excessive formation of pigment, and the general health is not affected; in Addison's disease with patches of decolored skin the general health is always affected and constitutional disturbance precedes and accompanies the skin trouble.

(*j*) Kerodermia of Kaposi (atrophodermia pigmentosa) is a rare skin disease with an unequal distribution of pigment. But, unlike Addison's disease, it begins in childhood; pigmented spots form upon the face, neck, outer side of the forearm and hand. These colored spots fade in time and the skin atrophies, and in place of them we have patches in which the skin is white, shrunken, depressed, thin, slightly contracted and difficult to pick up. By and by there appears upon the white patches pink spots consisting of dilated capillaries, which gradually enlarge until they form warty growths, which may fungate and bleed. There are many points of difference between this and Addison's disease; constitutional disturbance is uncommon until the late stages, and is then due to and marked by an increasing exhaustion.

(*k*) In senile atrophy the skin becomes dry, inelastic, wrinkled and pigmented, but this condition is not likely to be confounded with Addison's disease.

(*l*) "The glossy skin" of Paget (atrophodermia neuritica), which sometimes follows neuritis or other nervous disease, is also unlikely to be mistaken for Addison's disease, because the patches are smooth, shining, dry, of a pink color, and have a burning pain in them; they are unpigmented.

(*m*) The pigmentation which occurs in some cases of Graves' disease, lymphadenoma, osteo-arthritis, diabetes, phthisis, cirrhosis of the liver, and other diseases, usually have the well-known signs of the causative malady to account for the discoloration.

The two following cases of Addison's disease may be of value as illustrating some of the points above named:

(1.) W. B. was a man of middle age when I first knew him and he lived five years. He had very dark skin, hair and eyebrows and dark brown eyes; was born in the tropics, of English parents, was stout, usually short of breath, and had occasional attacks of bronchitis. In 1894-5 his shortness of breath increased and was ever present, even in the absence of chest symptoms; he had now a quick pulse, somewhat hypertrophied heart, sometimes epigastric pulsation and pain, but no valvular murmur was heard. The skin over his whole body was abnormally dark, olive color, which he previously attributed to his having been born in a hot climate; but the pigmentation was markedly increased since my first acquaintance with him. His occupation caused him to travel a great deal for the purpose of attending conferences in various parts of the world, at which he was a constant speaker; at home he was a member of various public bodies, which also called forth his oratorical powers, and he frequently addressed public meetings independently of those arising from his occupation. But in 1895 he began to complain that his mental power was failing him, his words did not flow so freely as was their wont, his memory was enfeebled, sometimes he lost the thread of his discourse or was fast for a word in the middle of a sentence to express his meaning and unable to go on for a few seconds; giddiness, nausea, failure of muscular power, occurred at the same time. When matters had reached this stage, the pigment in his skin was observed to be most noticeable in the form of irregular patches upon his back, abdomen and extremities; dark spots were visible in the mucous membrane of his mouth and tongue, and an almost distinct line was seen on the lips near the junction of the skin and mucous membrane; his digestion was disturbed, appetite diminished, vomiting occasional, and he had great tenderness in the epigastric and hypochondriac regions. On one occasion the vomiting was attended by hematemesis, and from this time he had to relinquish his duties. In a few weeks his circulatory and muscular powers were so enfeebled that he could with difficulty walk upstairs or about his room, and only with giddiness and nausea; anasarca, beginning in the feet and ankles, soon became general; his once bright intellect became clouded; his power of thought, concentration and memory faded; finally he sank exhausted or poisoned by the products of effete metabolism about eighteen months after the diagnosis of Addison's disease became clear.

(2.) B. M., aged thirty, came to me complaining of a dull, aching pain and feeling of fullness in the left hypochondriac region. She was very short of

breath, had a pulse of one hundred and twenty, temperature 98° F., languor, weakness, drowsiness, poor appetite, and constipation. The menstrual periods were regular. She was fairly well nourished and a brunette—dark skin, black hair and eyebrows.

There was upon her chin a patch of decolorized skin, which had somewhat the appearance of a scar from a superficial scald or burn, but there was no history of such an injury. On her chest, back and abdomen were patches of a dark color, olive green, which were not well defined, but faded into the normal color of the skin. The back of the forearms, hands and the fingers were similarly pigmented; indeed, the fingers looked as if they were dyed. Upon the back of each hand and on the right forearm were patches of skin, several inches in diameter, which had a white and shiny appearance, were smooth and colorless, but otherwise soft, pliant, level with the general surface and having a normal degree of sensibility. The pigmentation was increased by a residence of three weeks at the seaside.

The disease began in an insidious manner, and she was at first treated for anemia, although the menses were regular; but the hypochondriac pain increasing, the piebald appearance of her skin becoming more marked, the weakness, languor, breathlessness, giddiness and sickness on rising from bed being worse, palpitation and rate of pulse being quickened on exertion, led to a reconsideration of the case. Her originally dark complexion was misleading, but the patchiness of the pigmentation and the secondary light patches gave rise to keen thought, and there was an absence of pigmented spots in the mouth and some other signs of Addison's disease.

There is no history of injury or neuritis to associate the white patches with, nor were they anesthetic or hyperesthetic or shrunken as in atrophodermia neuritica; neither were the patches of ivory whiteness as in atrophodermia pigmentosa, nor did the pigmentation of the patches begin in childhood as in that malady, nor are there any pink spots of dilated capillaries on the patches of white. The white patches following the pigmentation, and the serious disturbance of the health excluded leucodermia and lentigo; and there was no enlargement of the thyroid gland nor other pathognomic sign of Graves' disease. It was concluded that we were dealing with a case of Addison's disease.

She was placed under a course of treatment in which the principal drugs used were ammonia, citrate of iron, arsenic and nux vomica, with slight variation for six months. During this time the pigmentation became noticeably less, the white patches lost their shiny appearance and approximated somewhat to a normal color; the giddiness, sickness, palpitation, pain, etc., also diminished and the patient expressed herself better than she had been for years, but whether and how soon a relapse will occur one can not hazard a guess. I have seen several other cases in which disturbance of pigmentation in persons of a highly neurotic temperament have been improved by similar treatment, and it seems highly probable in all cases which show a marked improvement during treatment that the nervous elements of the supra-renal bodies are the parts which have been chiefly involved, and that any marked degree of degeneration can not have taken place. It is possible that certain tubercular changes may take place in these organs without causing a fatal result, and that such a process may end in caseation or calcification as elsewhere. The degenerated elements can never be restored, but the process being checked, the body may accustom itself to the absence of the supra-renal secretion or the healthy organ of the opposite side may in time become more active and able to supply the needed material.

[Written for the MEDICAL BRIEF.]

A Medical Bill.

BY D. S. MADDOX, M. D.,
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It is the consensus of opinion among the liberal element of the medical profession that no medical laws at all would be far better than those which now disgrace the statute books of most of the States. Indeed, there are many who hold the view that the practice of medicine ought not to be, under any circumstances.

the subject of legislation. The majority, however, appear to believe that some sort of legislation is necessary, provided it is sensible and just, and does not restrict or interfere with the constitutional rights of the individual. The following draft of a bill is therefore respectfully submitted as a basis for anti-medical trust legislation. It is submitted with the belief that it, or something near like it, would meet the views of a large per cent of liberal-minded physicians who are opposed to the present trend of medical legislation; and with the added belief that it would prove an effective remedy in any State where medical freedom has been restricted by the arbitrary rulings of despotic boards.

It will be seen that this bill does not in any way attempt to *regulate* the profession; nor does it aim to *regulate* the public. It merely provides a place of registration for physicians, and a record open for public inspection at all times. It amply protects the public against bogus doctors by prescribing adequate penalties in cases of fraudulent representation. The medical trust doctors would no doubt cry out against a bill of this character on the ground that it does not *protect* them, or afford them an opportunity to make a close corporation of the practice of medicine.

An act to provide for the registration of physicians and surgeons.

The people of the State of ....., in legislature represented, do enact:

SECTION 1. All persons who shall engage in the practice of medicine and surgery shall be registered in the office of the County Clerk of the county wherein they reside and practice. The County Clerk shall provide a suitable record book for such registration, and shall enter in this book the names of all persons who register, together with the names and locations of the medical colleges from which such persons have been graduated, and the dates of issuance of diplomas or certificates of graduation. From each person so registered the County Clerk shall be entitled to collect a fee of fifty cents.

SECTION 2. Only such persons shall be entitled to register as have been graduated from legally chartered and reputable medical schools. A reputable medical school, within the meaning of this act, shall be one that gives systematic instruction in all the branches of medicine and surgery commonly taught, and shall require, as a requisite for graduation, the personal attendance of its students on not less than three courses of instruction of not less than seven months each, given in three separate years.

Provided, that all persons who are legal practitioners of medicine and surgery at the time of the passage of this act shall have the right to register on payment of the Clerks' fee of fifty cents.

SECTION 3. Whoever, not being lawfully authorized to practice medicine and registered as aforesaid, holds himself out as a physician, or practices or attempts to practice medicine in any of its branches, shall for each offense be punished by a fine of not less than fifty nor more than two hundred dollars.

SECTION 4. Any person who shall make any material false statement regarding his or her registration shall be deemed guilty of a misdemeanor, and on conviction thereof shall be fined not less than twenty-five nor more than one hundred dollars, and have his or her name stricken from the book of registration.

SECTION 5. Whoever pays any sum of money to an unregistered physician for medical services shall be entitled to recover the same, with interest; *provided*, suit is brought within one year from the date of payment.

SECTION 6. The provisions of this act shall not be held to prohibit medical or surgical service in a case of emergency, or to prohibit the domestic administration of family remedies. They shall not apply to a medical officer of the United States army, navy or marine hospital service in the performance of his official duty; to a physician or surgeon from another State when in actual consultation with a legal practitioner of this State; nor to osteopathists, or persons practicing magnetic healing, mind cure, massage or Christian science, if they do not administer drugs, or perform or attempt to perform surgical operations.

1398 Oak Street.

[Written for the MEDICAL BRIEF.]

Observations Concerning the Anatomy and Physiology of the Gall Bladder and Ducts.

BY M. R. BARKER, M. S., M. D.,
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Preliminary to the discussion of some of the surgical diseases of the gall bladder and ducts, and the surgical procedures adapted thereto, and for the purpose of elucidation, it seems wise to study, briefly, the anatomy, anatomical relations and physiology of these organs as they exist in the living organism. We are especially interested in the structure of the gall bladder and cystic duct, as from this we may draw some conclusions as to their functions. The gall bladder, in its structure, holds an anomalous position among the hollow viscera, having no distinct muscular coat, while the arrangement of the mucous membrane of the cystic duct is different from that of any other duct in the body. The frame of the gall bladder wall, to which the other structures entering into it are attached, is a fibro-muscular membrane, of which the fibrous tissues enormously predominate, the muscular fibers being sparsely distributed in the fibrous tissues, the greater number of which are distributed longitudinally, while a few are transversely placed. Spread over the outside of this fibro-muscular membrane is the peritoneum, which covers all of the fundus, and all of the body and neck of the gall bladder, excepting a small portion, which lies next to the liver, the peritoneum being reflected from the body and neck of the gall bladder onto the liver on each side, forming the meso-cholocystis, which performs the same functions for the gall bladder that the meso-colon performs for the colon, among which it holds it in place. On the inside of this fibro-muscular membrane is spread the mucous membrane which, by continuity of tissue, is connected with the mucous membrane of the gall ducts and intestinal tract. The mucous membrane of the fundus and body is arranged in rugæ, or ridges, with valleys between, while in the neck and cystic duct it is arranged in concentric folds in such a way that a fold fits in the valley between two other folds, thus forming a valve. In the cystic duct there is a series of from eight to ten of these valves. These folds, or valves, are known as the folds of Heister, and guard the inlet and outlet to the gall bladder. These folds are so close-fitting that it is with difficulty that a probe can be passed through the normal cystic duct. Some claim that it can not be done. The cystic duct, with the two hepatic ducts, form the common duct, which opens into the descending duodenum through an orifice on the summit of the papilla. This papilla is a valve-like contrivance which guards the mouth of the common duct, and through which the bile flows into the intestine. This apparatus is normally attached to other organs, as follows: The gall bladder is attached to the under side of the right lobe of the liver by the meso-cholocystis, and is connected with the common duct by the cystic duct, which passes slightly obliquely from right to left to its junction with the common duct, and is about an inch and a half long. The common duct is attached to the liver by the hepatic ducts, at its upper end, and to the descending portion of the duodenum at its lower end. It is about three inches long and passes almost directly downwards from its beginning to its termination.

The normal relations of the gall bladder and ducts, to other organs in the living subject, constantly change. In other words, the gall bladder may have certain definite relations to the pylorus one moment, while the next moment these relations will be changed, due to the normal and nearly constant movements of both pylorus and liver, to which the gall bladder is attached. This may be said of nearly all the organs that are located in the neighborhood of the gall bladder. They are all, except the head of the pancreas, constantly changing their positions, and the organ that is in the closest relation to the gall bladder one moment, may be farthest removed the next. Nevertheless, the gall bladder and ducts have a certain relation to other organs. The liver is anterior, or above the gall bladder, and as the two are attached to each other, their relations do not normally change; but as the liver moves with normal respirations, the relations of the gall bladder to other organs changes somewhat by reason of

this. The first portion of the duodenum lies behind and below the gall bladder, and in front of the cystic and first portion of the common duct (Fig. 1). In Fig. 1 the view is antero-posterior and the angle between the gall bladder and cystic duct seems too acute. Fig. 2, which is a lateral view, shows the angle more correctly. Fig. 3 shows the fundus of the gall bladder elevated and in line with the cystic duct. The middle portion of the common duct lies between the middle portion of the duodenum and the head of the pancreas. The third portion of the common duct enters the descending portion of the duodenum from left to right. The common duct, just before it terminates in the duodenum, expands, forming a pouch which is known as the ampulla of Vater. This pouch lies between the muscular and mucous coats of the duodenum. The transverse colon passes just below the fundus of the gall bladder, but is constantly changing its position normally. The dotted lines in Fig. 3 represent the transverse colon. The dotted lines are not used to show this structure as deeply located, but to prevent hiding other structures in the drawing. Fig. 4 represents a longitudinal section of cystic duct, showing the folds of Heister (*a*). It must be understood that these drawing are diagrammatic only. The above observations and drawings represent the structures referred to in health, and to which condition and relation it is the business of the surgeon to reduce them, finding them, as he does, with all kinds of variations from this. In other words, the surgeon deals constantly with the abnormal, but must as constantly have in mind a clear conception of the normal, in order that he may reduce the

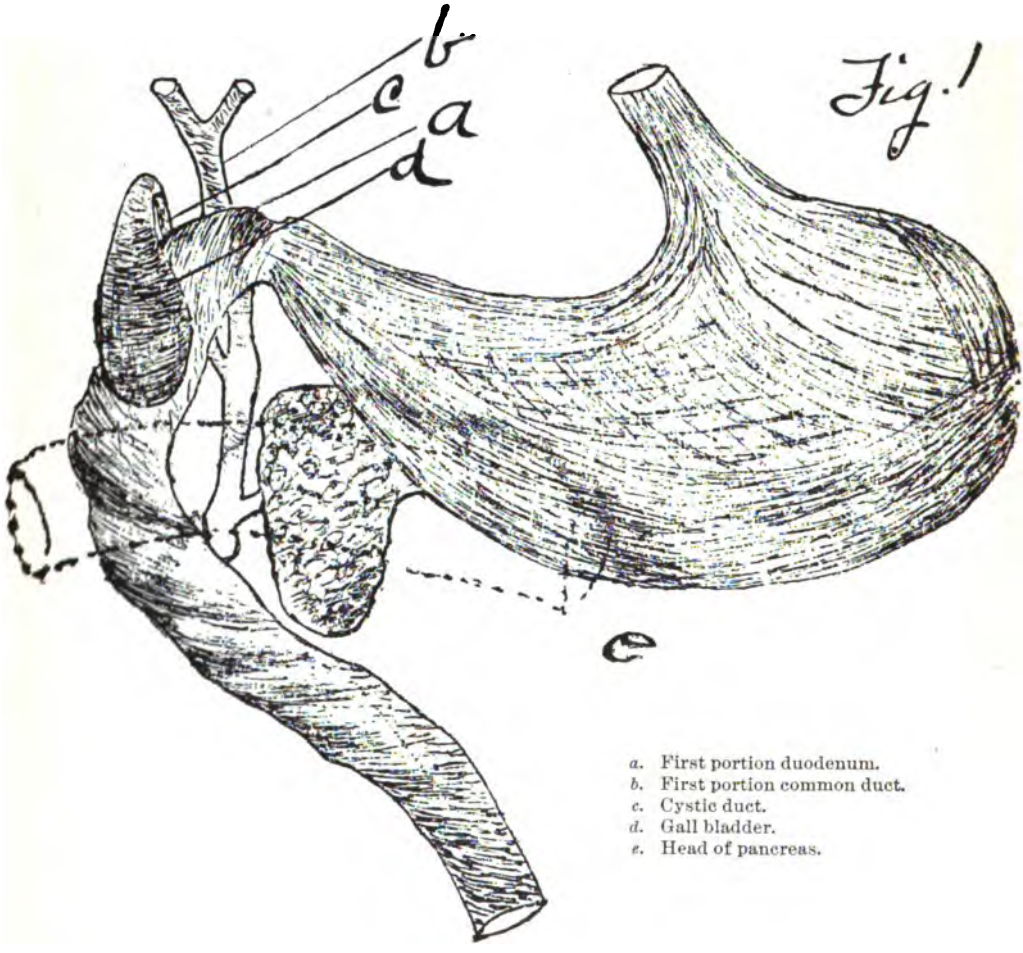

Fig. 1

a. First portion duodenum.
b. First portion common duct.
c. Cystic duct.
d. Gall bladder.
e. Head of pancreas.

former to the latter. The blood supply of the gall bladder is the cystic artery, which divides into two branches at the neck of the gall bladder. One of these passes along the border of the gall bladder, next to the liver, between the folds of the mesocholocystis, while the other branch passes along the free border of the gall bladder.

The lymphatics of the gall bladder form a very remarkable plexus about it. The whole of the organ is wrapped by these vessels, besides which a chain of them passes on either side of it, all anastomosing freely. Those on the right side enter the lumbar glands, those on the left enter the glands on the lesser curvature of the stomach, and the esophageal glands, while those that surround the gall bladder pass to the glands in the gastro-hepatic omentum. The principal nerve supply of these organs is the hepatic plexus of the sympathetic.

Having thus briefly discussed the anatomy, and some of the anatomical relations of the gall bladder and ducts in health, we may here, with propriety, and briefly, discuss their physiology, realizing that we are now entering upon a subject about which there has been much speculating and theorizing, but out of which there has emanated little bearing the evidences of truth. It is an old and familiar teaching, that the gall bladder is a reservoir for bile. To the thoughtful, nothing is more erroneous. The normal human liver excretes from thirty to sixty ounces of bile daily. The normal gall bladder holds about an ounce. How long would this reservoir of an ounce meet the demands of the system for bile, if the liver supply should be shut off? We understand that a reservoir is a place where a liquid is stored, from which supply there may be drawn sufficient to take the place of the regular supply of that liquid should it fail. Clearly, Nature would not supply a reservoir holding only an ounce from which to draw in case of emergency a secretion which is so essential to the system that from thirty to sixty ounces of it are required daily. While this theory is old, and widely accepted, it is so far from true that it is not even plausible. Dr. Murphy has advanced the theory that the function of the gall bladder is to regulate the tension in the biliary passages, the same as an air chamber regulates the tension in the pipes of a steam pump. On the face of this it seems more plausible than the reservoir theory, yet closer thought must condemn this also. If this theory be true, the eight or ten valves, which close the cystic duct, must yield when a certain amount of hydrostatic pressure is present in the common duct, and the bile flow into the gall bladder. The outlet of the common duct, into the duodenum, is guarded by a single valve in the papilla. The cystic duct is provided with eight or ten valves, each one of which is as potent, so far as we know, as the valve in the papilla. Is it

Fig. 2

not a reasonable conclusion that long before sufficient hydrostatic pressure had developed in the common duct to open the ten valves in the cystic duct, the bile would have been forced into the duodenum and all tension relieved? We do not believe sufficient hydrostatic pressure could be developed in the common duct to open a normal cystic duct. It is well known that air can be forced through the cystic duct under an anesthetic, but it requires a considerable pressure to do it. It is also well known that a normal gall bladder can be emptied under an anesthetic by squeezing it with the hand, but it requires a good deal of pressure to do it; much more, I am sure, than all the hydrostatic

pressure that could be produced in the common duct.

We believe the folds of Heister are for the purpose of preventing just what Murphy believes happens, viz., the opening of the cystic duct by hydrostatic pressure in the common duct.

If the gall bladder is not a reservoir, nor a mechanical device to relieve tension, what is its function? or, is it functionless?

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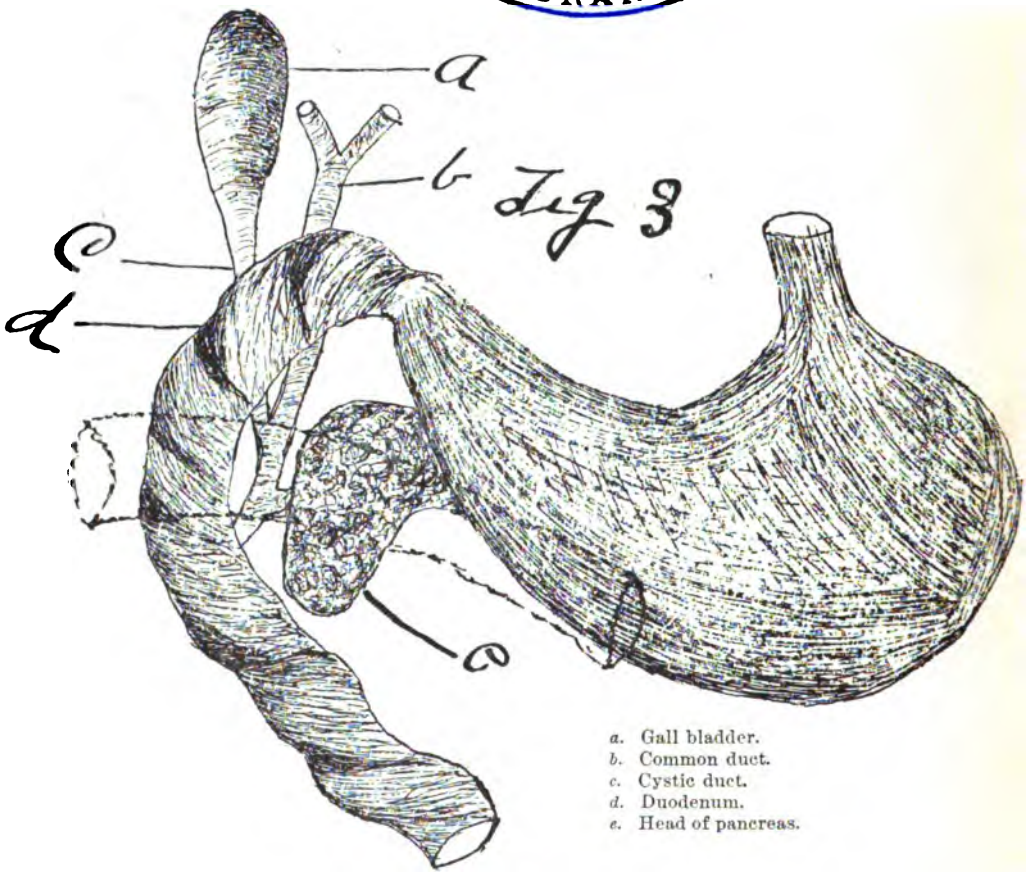

a. Gall bladder.
b. Common duct.
c. Cystic duct.
d. Duodenum.
e. Head of pancreas.

Let us reason from analogy. The action of a certain kind of vitiated blood upon the centers for respiration, causes dyspnea. In other words, a certain abnormality of the system so changes the blood that it causes an abnormal stimulus to the respiratory centers and this, in turn, causes dyspnea. We cite this phenomenon to illustrate what we wish to elucidate. We believe every physiological and psychological phenomenon is controlled by nerve stimulæ acting upon nerve centers. These stimulæ are, or result from, the manifold needs of the system, or from external impressions. The mucous membrane of the gall bladder secretes a certain substance. Let us now suppose this substance is necessary for the perfect operation of the system. The need of the system, then, for this substance, or the lack of this substance, in the system, acts as a nerve stimulus, which is conveyed to the nerve centers controlling the folds of Heister by some medium. Perhaps the lack of this substance in the system modifies the blood in such a way that it acts upon these nerve centers in a similar manner that the vitiated blood acts upon the respiratory centers. By reason of this stimulus, however conveyed, the nerve centers controlling the folds of Heister act, causing these folds, or valves, to relax. Now, the bile, possibly by reason of hydrostatic pressure in the common duct, flows into the gall bladder, and is mixed with its secretion. When this is accomplished, the mixture of bile and secretion serves as a

nerve stimulus, which acts upon the nerve centers that control the contractile power of the gall bladder, and its contents are forced through the open cystic duct into the common duct and thence into the general system. The need of the system

Fig. 4

a. Folds of Heister. *b.* Gall bladder.

now being satisfied, for the time, the folds of Heister close and the cycle is at an end, only to be repeated when the system again demands the secretion of the gall bladder. From our study of the anatomy of the gall bladder, we know that its contractile powers are very feeble and totally inadequate to force the folds of Heister; hence these folds must be opened in some other way. We understand that the secretion of the gall bladder is not necessary to the life of the general system, neither does the system seem to be impaired when it is removed, but we can not say that it is not in some degree impaired. Surgeons do not, as a rule, remove the gall bladder until long after it has been functionally removed by disease; and the evidence of such a patient that he feels as well as when he possessed a normal gall bladder may not be reliable, as he may not know just how he felt when he possessed a normal gall bladder. Just why the secretion of the gall bladder is mixed with bile before it is introduced into the system, and why this secretion is introduced into the system periodically, instead of continuously, is not known. There is a good reason for it, however, and some day, when we know more, we will find this out. We do not assume, in this paper, to give the exact *modus operandi* of the gall bladder and ducts, but we believe their operation is carried on in some such manner as we have suggested, and that the normal secretion of the gall bladder, while not essential to the life of the system, is essential for the perfect operation of it.

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[Written for the MEDICAL BRIEF.]

Epilepsy.

BY A. NOXON, M. D.,
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Agnes K., age fifteen, has been subject to epilepsy for the last six years. Had convulsions in infancy, when teething. Had good health until six years ago when, one day, she became very much excited, which was followed by an attack of epilepsy, since which time she has had attacks quite frequently, at times three in a single day, and then again would be free for several days. General health in every respect good. Attacks occur mostly during the day. The usual treatment has been followed without any appreciable benefit. I hope the BRIEF family, with their varied experiences in such cases, will be able to give me a line of treatment that will prove a success in the case of this poor girl.

[Will some of our readers please reply? —ED.]

[Written for the MEDICAL BRIEF.]

The Ascent of Old Age.

BY AXEL EMIL GIBSON, M. D.,
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"The times change," says an old Latin proverb, "and we change with them." Perhaps at no other era of historic time has so sudden and so startling a change taken place as the one witnessed at present in the relation of man to his, of old, allotted span of mortal years.

In the first quarter of the last century a person was considered a mature man at thirty, and at fifty already an old man! Now, this is all changed. A man is still a youth at forty, and claims the epithet of "young man" even after having passed fifty; while not until he reaches some seven or eight years beyond the number set by King David as the utmost limit for our sojourn on earth, does he recognize the propriety of being spoken of as an "old man."

A century or so ago, the culmination of individual growth and achievement was reached at a very early age. The great men of that time, Bonaparte, Pitt, Wellington, Marceau, Murat, Mirabeau, had reached their high-water mark of fame and power before thirty. These men—to use an expression applied by Napoleon to himself and to his captains of spoil—"had never had time to be young." With a single bound they leaped from childhood into old age. In the days of Austerlitz and Jena a person after having reached his fortieth year had all reasons, when comparing his age with that of the Emperor and the field marshals, to consider himself quite an old man. It may seem strange to us, though the fact nevertheless remains, that the veterans of the grand army of Napoleon, weighed down by age and glory, were men of whom few had passed their thirty-fifth year! It was a time of rash and short living, with an early age and no overtures of real youth —a time when we find Thackeray ridiculing De Florac for holding claims on being still a young man at the age of thirty-five!

But the leaf turned, the irony of fate decreed that the end of the very century, the beginning of which had witnessed the triumph of premature age, should see the laurels of achievements turned over to the congeners of the "grand old man." Indeed, it would seem as if the leadership of the world had all of a sudden been turned over to an aristocracy of graybeards, and that the first and indispensable condition for the attainment of recognition and power consisted in having passed the age of eighty. Gladstone, Bismarck, Moltke, McMahon, Victoria, William I. and Pope Leo XIII., constituted the most remarkable constellation of power, fame and destiny ever witnessed on the firmament of political and civic life.

The unmistakable tendency of our time to rejuvenate life, and to prolong or rather to vanquish age, is placing its stamp on every event of individual existence. The average man of today carries the spirit and power of youth into an age which a century ago was regarded as bordering on the shady side of existence. At thirty he is still full of an abandon and recklessness which formerly did not seem proper to exhibit beyond the completion of his first dozen of years. The buoyancy and vigor characteristic of our present middle-aged man make it, in most cases, extremely difficult to approach any fair degree of accuracy in determining the age of a person passing along the ascension scale between forty and fifty-five.

And what is said of man refers, of course, in equal, if not in still more accentuated degree, to woman. The number of beautiful age-and-change-defying-women that crowd our streets are constantly increasing. They move with a blitheness, gracefulness and sweet dignity which testifies to the approach of a true balance in their physical and spiritual enfoldment.

One of the causes of this remarkable arrest of old age lies undoubtedly in the increasing indulgence of our time in healthy outdoor sports, with their care-free and worry-free abandon. The occasional freeing of the mind from the "strenuous life," the determination for a longer or shorter time to force business and routine interests to the wall, and give up one's self without scruple or narrow-minded conventional restraint to the spirit of the sport, undoubtedly tends to liberate forces of original pristine strength. Once in awhile

we grant to our old, dear Mother Nature the privilege of claiming us as her own. Then, like an affectionate parent, permitted only at given (and sometimes, perhaps, far between) intervals to see her beloved children, we are pressed to her bosom, and from the pulsating sluices of her heart there is poured into our being currents of love, energy and endurance.

"And thus our life, exempt from public haunt
Finds tongues in trees, books in the running brooks,
Sermons in stones, and good in everything."

Struggle against old age does not mean struggle against death. We do not propose to combat death, only *too early* death, and there is no reason why man may not pass the great divide without being escorted by the infirmity, decrepancy and helplessness of old age. Death should appeal to us as a harbinger of a sweet rest after a long day's labor, laying his hand

"Upon our heart gently, not smiting it,
But as a harper lays his open palm
Upon his harp to deaden its vibrations."

To successfully combat old age we must ally ourselves closely with Nature. She has it in her power to confer on us incredible moral and physical strength. We commune with her and receive her blessings whenever we sincerely admire the world of beauty and loveliness, in which we are constantly pacing up and down. There is nothing more refreshing and rejuvenating than to open up one's mind to the touch and caress of Mother Nature; to throw one's entire self with the ecstacy of trust and confidence in her loving embrace. She will accomplish wonders with us if we unhesitatingly and confidently surrender ourselves to her healing and life-giving powers. It is Nature who brought us up to whatever strength and beauty we possess, and it must be through her we shall regain the lost powers of youth—if lost; or retain them in uninjured condition, if still in our possession.

Nature has all the elements of perennial youth in her bosom. Cosmetics and tonics are poor restoratives of faded health and beauty. The world's famous beauties, the Mmes. Epignon, l'Encore and Adelina Pattis of all ages, never quaffed the vital elixir of their unfading loveliness and health from the apothecary's bottle. The secret of their beauty is not contained in the enigmatical characters of a learned prescription, but in the blazing formula of sun and sky, of hill and meadow, of air and water. They nestle close to Nature's heart, become her obedient children, and listen attentively to her advice. They indulge in out-door movement and healthy sport, and consult their physical condition and real needs rather than the inane statements of an elaborate bill of fare for the selection of their food. They study their natures, ascertain their necessities, and obey scrupulously their own better judgment. They seem, one and all, to subordinate their appetites to the mandates of their judgment, and not their judgment to the mandates of their appetite.

It is almost incredible to what extent a rational living can strengthen and rejuvenate every tissue and fiber of man's physical structure. And a rational living consists in a close observation of the life-processes which have brought existence to its present height of beauty and power. The possibility of development attainable through a rational system of living is practically limitless. The strength of Hercules, the beauty of Apollo, the wisdom of Athene, and the virility and majesty of Zeus could never have been contemplated and pictured did they not refer to powers already within the sphere of human attainment.

I see no basis in the physical constitution of man for the supposition that because we have passed the savage in point of mental and moral strength, we should need to fall below him in point of physical strength. Nature is never weakened by culture; on the contrary, whenever the two work in partnership, life flows at its highest tides, as can be witnessed in the mighty creations of our Burbanks, Bartletts, De Vriez, and other architects and builders in the vegetable kingdom. Why could not man introduce the same partnership of Nature and culture in the daily construction of his body, and let the charioteer of his mind drive just so fast, and not faster, than the power and endurance of his evolutionary "team" permits?

Mah makes a great mistake in supposing that the eternal fitness of things required the majesty of genius to have his throne in a log house. Said Thomas Carlyle: "When God made the prophet he did

not unmake the man." It was this conjecture that stunted the physical growth of man during the past centuries, and shortened his life to one-half, or below one-half, of its legitimate length; and to the extent the man of the present century adheres to the same views and methods, will he reap similar results. The inordinate desire of the individual to indulge one-sidedly in the purely ornamental and superficial processes of existence naturally reacts on him in a corresponding neglect of the structural and fundamental; in his anxiety to get the edifice ready for decoration and ornamentation, he forgets or omits the more essential work of laying the proper foundation. And so it may happen that there is already sign of decay in the basement before the upper part of the structure is finished.

The elite of our present generation seem to have caught, or rather are on the verge of catching, the secret of a long, healthy and beautiful existence. The cause of this great, vital departure from the routine of the past is, perhaps, to be found in the dawning realization that we belong to and form a part of Nature; that we are as much children of old Pan as is the savage, and that genius and high mental attainment does not free us from the necessity of complying with the iron rules governing the processes of growth and health. We begin to find out that singular intelligence and common sense go very well together, and that simplicity is the redeeming and preserving factor of life. Not back to Nature, with its savagery and rude, uncultured strength, however, but up to Nature by giving expression to ever-higher aims and sympathies along the line of mental, moral and physical evolution. It was the failure of Jean Jacques Rosseau to recognize the difference between the higher and lower aspects of Nature that caused the downbreak of his ethics. And to live this higher Nature means to understand and realize the meaning of life, which again is possible only through its practical application to the issues of our everyday life. Growth toward health and strength means a striving onwards gauged by duty and observation, not backwards under the unreasoning leadership of vain regrets, morbid longings and aimless griefs.

It is not only the kingdom of heaven which is to be "taken by violence"—the kingdom of Nature must be conquered by similar methods. We must be attentive and vigilant in our walks of life; neglect nothing, underrate nothing. "Generous in design, immovable in execution, and moderate in success." Enjoy unstintingly, though with moderation, the legitimate pleasures of life. Admire the beautiful, the true and good; love the virtuous and affectionate in all its vestures, help the needy and suffering, comfort the sad, encourage the downhearted, and gently caution the overbearing. Always surround the mind with images of high, moral purity—avoid falsehood, doubleness and vanity. Move forward broad-gauged, open-browed, square-minded and generous-hearted through the world, ever facing heaven, yet never losing sight of earth.

If to these old, yet ever new, rules we add a knowlege of up-to-date hygiene and its unreserved application, a knowledge of the nutritive value of foodstuffs, a study of the reform dress movement, and an untiring interest in everything that tends to health, strength and beauty—in a word, a study of ourselves in our relation to Nature rather than in our relation to drugs and fashion—we shall certainly continue to raise the mark of longevity and fill the earth with happiness, sweetness and universal joy.

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[Written for the MEDICAL BRIEF.]

Alkalysis versus Acidosis—A Study of Nature's Detoxicative Process.

BY E. R. MORAS, M. D.,
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There is in every "organic" molecule two end groups, attached to the nucleus, imparting to the molecule two contrary properties, namely, the acid function and the basic or alkaline function. All cleavage products of proteid-decomposition, or disassimilation, possess these two chemic or inorganic radicals and functions. For instance, take leucin: Its nucleus C_5H_{10} is linked at one end with the amid radical NH_2, and at the other end with the acid radical COOH.

Hence it follows that inorganic function not only exists in every "organic" body, but it also affects and is affected by the character of the inorganic constituents of its surrounding or nutritive media, in disease as well as in health.

Gautier very appropriately calls these radicals "the elementary organs of compound molecules."

The clinical application of this knowledge becomes apparent; and leads me to assert that in dealing with impaired function or disease we must primarily and essentially consider the purely chemic or inorganic processes, and not the so-called organic.

Hence, properly speaking, disease is the result of impaired inorganic function. This definition does more than take in the most essential part of the function whose impairment constitutes disease; for, by revealing to us the inorganic character of the process or function called nutrition, it suggests at once the means to be used in repairing or restoring, by replacement or substitution, the chemic constitution of the permeating or nutritive medium in accordance with the laws of solubility, dialysis, hydrolysis, electrolysis, and, underlying them all, of alkalysis; and, thereby, influencing at will the character and course of nutritive processes, in health and in disease.

It is certain that all derivatives of proteid-decomposition (products of disassimilation) exert in some cells their alkalytic and in others their acid function; or that they may alternately exercise both, even in the same cell and at the same time—these variations depending chiefly on the chemic state of permeating or nutritive media. Again, like inorganic acids and salts, proteid-radicals may act singly or in mass, in which respective cases the result may necessarily be different on the functionality of the cell or cells (animal or bacterial) and on the condition of the waste material to be disposed of.

Therefore, depending altogether on the inorganic state of the nutritive medium, leucin and other derivatives may be the means of producing impairment or restoration of function—disease or recovery.

Fortunately, we are in a position to profoundly modify or transform at will the surrounding or permeating nutritive and excretive media; for the substances to be modified or transformed are purely chemic and physical, and in no sense biologic, and within easy access, owing to the laws of dialysis (osmosis).

It must then be granted that disease is for the most part the result of impaired inorganic functions and may be repaired only by means of inorganic bodies such as enter into the constitution of and are loosely or firmly associated with proteids, fats and carbohydrates in the tissues and in the foodstuffs.

It seems irrational to assume that anything but those elements which in health serve to maintain the defenses of the organism against the ever acting internal and external factors of impairment should have any chemic or biologic value or utility in disease, which, after all, is but a more or less urgent demand of the economy for a greater supply of or a variation in the very identical bodies that constitute its essential allies in defense, and which it can effectively associate, but never can produce nor duplicate. Hence their very notable effects when introduced from without in times of need. Though made with a different object in view, let the results of very interesting experiments conducted by Professor Loeb, at Chicago University, speak for me. Dr. Loeb experimented with paramecia. Batches of them were put in distilled water; in a weak NaOH solution; in a weak NaCl solution; and in a weak acid solution. All had to get along without oxygen. It was found that acid acts like poison; sodium hydrate, in a weak solution, increases the duration of life two hundred and forty per cent over that allowed by a weak sodium chloride solution, and one hundred and sixteen per cent over that of distilled water. Comment is unnecessary.

I may then formulate this theorem:

Function being essentially dependent on alkalyls* (diffusible alkalis) existing

*NOTE. By "Alkalyl" I mean any inorganic body or compound which imparts to proteid compounds the following properties:
1. Dialysis (*the diffusible function*).
2. Electrolysis (*the electrolytic function*).
3. Alkalysis (*the basic or alkaline function*).
In realty, the Alkalytic function—as I mean it—implies the other two.

in serum or lymph, it follows that impaired or perverted function is directly controlled and restored by alkalyis derived from or introduced into the blood.

Just as it is becoming evident to students of physiologic and pathologic chemistry that acidosis is the factor-process of toxication or disease, so it must become evident that alkalysis is the factor-process of detoxication or cure.

1403 Washington Boulevard.

[Written for the MEDICAL BRIEF.]

Is Tuberculosis Contagious?

BY J. W. LOCKHART, M. D.,
St. John, Wash.

This question has, undoubtedly, been asked and variously answered a great many times during the past century. The leading minds of the medical profession, until the discovery of the bacillus tuberculosis by Koch, were almost unanimous in the opinion that tuberculosis was not in any sense of the word a contagious disease. When Koch had made his famous discovery, presto, change! The bacilli and contagion were at once indissolubly linked together in the minds of many would-be leaders in the medical profession. They reasoned like this: The existence of the bacillus in the lungs of consumptive patients has been fully demonstrated; cultures of these bacilli have been injected into rabbits and guinea pigs, and they have died from a disease resembling tuberculosis in the human subject. It is possible for the bacilli from the lungs of consumptives to enter the lungs of healthy persons. Therefore, the bacillus is the cause, and only cause, of tuberculosis in man. The suggestion that a previous diseased condition of the lungs might in any way be responsible for the presence of the germs was waved aside with an assurance that was truly refreshing, if not convincing. I have seen maggots in dead sheep and I have seen them in live sheep, and I concluded, in each case, they were there because there was putridity there for them to feed upon. I never imagined that because the germs were sometimes found in live sheep that they were the cause of the death of all the dead sheep that had germs in them. It has been well known for more than a hundred years that rabbits kept in close and unsanitary confinement would soon die from tubercular disease, whether they had been exposed to the supposed contagion or not. Rabbits, then, must be very susceptible to the tubercular infection. If this be true, it seems to me that the injection method of producing the disease in them for demonstrative purposes is unscientific and apt to be misleading. It would seem infinitely better to propagate the disease in a natural specimen and turn him loose in the haunts of his fellow creatures, and observe whether or not they sickened and died from the contagion. I might say, in passing, that there are places in Oregon where the jack rabbit is a constant and menacing pest to the gardeners and orchardists, and they would hail with delight any method of accomplishing their destruction. Every year the citizens have their rabbit drives and slaughter thousands of them, but they are so healthy and propagate so rapidly that they are scarcely diminished in numbers. A few years ago the gophers, which were an unmitigated pest in this country, damaging the crops to the amount of thousands of dollars annually, were almost annihilated by some contagious disease that spread rapidly among them. Here, then, is a chance for those who so strenuously insist that tuberculosis is a contagious disease to at once demonstrate their theory to a finish, and at the same time gain the everlasting gratitude of the Oregon ranchers.

I have read that the rabbit pest in Australia has been mitigated by disseminating some contagious disease among them by inoculation, but I have never read that that disease was tuberculosis. My own observation and experience with tubercular disease extends over a period of thirty years, and I cannot now recall a single case that could be fairly attributed to contagion. The first case that I recall was that of a newly-married young man whose horse balked with him in the middle of a wide but rather shallow stream, one day early in March. He got out of his buggy and led the horse to the opposite shore, thereby getting his feet thoroughly wet. He foolishly drove

home, about six miles, without drying his feet. The next day he presented all the symptoms of a bad cold, which he refused to have anything done for, until it developed into a severe bronchitis. This also was neglected, with the final result that the young man never knew another well day and died in a little more than two years with all the symptoms of tuberculosis. Previous to taking cold this young man had been strong and healthy, but of a scrofulous diathesis. He had on no known occasion been with or associated with any tuberculous person. During his sickness his young wife was his constant companion, living, eating and sleeping with him; and to make matters worse, their kitchen, dining-room, parlor and bed-room were all enclosed by the same four walls. Notwithstanding all this opportunity for infection the woman remained perfectly free from any symptoms of tubercular disease. She subsequently married again, endured all the privations of a homesteader in a sod house on a western prairie for many years, raised a large family of healthy boys and girls, but after fifteen years took cold from exposure to inclement weather, and in about three years after died with every symptom of pulmonary tuberculosis. Neither in this case was there any known opportunity for contagion. For many years this woman had not been with any person who had ever been suspected of having tuberculosis. During her sickness she lived in a small house with her husband and large family of growing children, none of which, seven years after her death, showed any symptoms of the disease. There was exhibited every opportunity for contagion to manifest itself, but without untoward results. Not one of the many neighbors who helped nurse this patient contracted the disease. These cases occurred long before the idea of tubercular contagion became prevalent, and it does seem that if the disease is at all contagious some of these persons who lived so long in an atmosphere supersaturated with tubercular germs would have contracted the disease.

The next case was that of a young woman who, during her first pregnancy, contracted a severe cold, which finally degenerated into a chronic bronchitis that refused to yield to any kind of treatment, including change of climate. She continued to decline, with occasional short intervals of improvement, for three years, when she died with all symptoms of pulmonary consumption. This woman was of a very strumous diathesis. The child she nursed during the first year of her sickness, although inheriting the strumous diathesis of her mother, has never showed any symptoms of the disease, and is now a very healthy-looking woman twenty years of age, and herself the mother of a strong and well nourished baby. Neither have any of the nurses or attendants in this case yet presented any signs of the disease, although exposed in every possible way to the supposed contagion. The three last months of this patient's life was spent in my own house and with my own family under very favorable circumstances for contagion, yet we have remained free from the disease.

So far as the principle of contagion is concerned, these cases fairly represent my experience and observation of consumptive cases. I have, however, under observation at the present time, a patient with tuberculosis, who strongly insists that she contracted the disease from a brother who died with it some four years ago. The brother lived and died at his father's house, where his wants were attended to by his near relatives and neighbors. It was seldom that this woman visited her brother, and as she was at the time very much afraid of contracting the disease, it is to be presumed that she was proportionately careful to avoid any chance of contagion. She remained almost entirely free from any sign of bronchial disease, except a bad cough during an attack of la grippe, for a year and a half. It is said, too, that during a visit to California she was once threatened with pneumonia. On her return to this climate she contracted a severe cold by a long and chilly drive. The cold was followed by la grippe, and the bronchial cough showed a marked tendency to become chronic. This greatly alarmed the patient, so that she consulted a man who calls himself a specialist in pulmonary

diseases, who claimed he found as many as three tubercular bacilli in a sample of her sputum. This confirmed her suspicion and she immediately placed herself under his care. This specialist prescribed a very rigorous open air and placebo treatment. The patient endeavored to carry out the prescription to the letter, and if I am not greatly mistaken the exposures that poor woman endured would have induced pulmonary disease in any person the least predisposed to it. I am confident it would have killed the average man. The result is that the woman is now undoubtedly in the last stage of consumption.

Although I am a great stickler for the open air treatment of consumption, when judiciously applied, I can not but feel that these radical exposures were, to say the least, very injudiciously prescribed. If this case is due to the source of contagion to which the patient ascribes it, why did she, being the least exposed to it, receive the contagion, while those who were a thousand times more exposed did not receive it. Why were the most exposed immune, and the least exposed not immune?

[Written for the MEDICAL BRIEF.]

Circumcision—A Reply to Dr. Scholer's Article of the September Issue.

BY E. A. TIMMONS, M. D.,
Columbia, Tenn.

I have had the pleasure of reading the article of Dr. E. C. Scholer, of Chicago, Ill., on "A Simple Method by Which the Operation of Circumcision Is Reduced to a Minimum," occurring in the September, 1905, issue of the BRIEF.

With a certain condition prevailing, I wish to endorse what the doctor has said; but on another condition, I beg to differ with him.

Now, in case the parents flatly deny a circumcision, then I agree that Dr. Scholer's described instrumental treatment for breaking up the glandular adhesions of, and in dilating, infantile phimosis, is the thing to do. Really, it is the only rational thing that can be done. And the Doctor's method for doing it, and in keeping the parts non-adhered and dilated until Nature will have taken charge of the case, so as to maintain the desired results, is an ideal one, so long as Nature is kind enough to sustain such results. But when one has secured the most favorable cure possible by the Doctor's method, or by any other method that would bring about the same good effect, what is there left? A long prepuce remaining that thoroughly covers the glans penis, that continually keeps the glans more or less sore and tender, that predisposes the child to convulsions, epilepsy, chorea, paraplegia, some forms of mania, greater sexual passions, masturbation, nocturnal emissions, seminal losses at stool, herpes preputialis, balanitis, sexual excesses, a moral pervert, a recurrence of the phimosis with glandular adhesions; that, in fact, render the boy, in later life, more liable to contract venereal diseases of all types and grades; a few of which were mentioned by Dr. Scholer in his paper. That is what (a long prepuce) the Doctor, or any one who follows his suggestion, has left; and those are many of the diseases that the long "crackered" boy is liable to contract, whether his prepuce has ever been infantilely stenosed and adhered, or not.

Therefore, with those facts confronting me, and on the condition that the parents consent, circumcision, in my opinion, is the most rational course to pursue in those cases. In this statement I think that I voice the sentiment of the best genito-urinary men of America; at least, it is the procedure that I follow. However, I am aware that it is possible for some other pathological condition to be present that would make it advisable to delay the operation until such an obstacle is corrected, or gotten in a better state, for the procedure. But a contraindication is most rare in such infantile cases, and a circumcision can most always be performed immediately.

After admitting a possible contraindication to circumcision, I must say that all (not a single one otherwise) of the constricted, or stenosed, foreskins, infantile or otherwise, that have come under my observation, either for treatment or consultation, have invariably been exceedingly long ones. From this observation I would infer that the fetal development of

unusually long foreskins predisposes to a congenital phimosis with and without glandular adhesions, the like of which Dr. Scholer proposes to treat in such a way as to avoid, or to reduce, the operation of circumcision; and the like of which, according to my experience and views, need circumcision most.

I can not see why the Doctor wishes to reduce the operation of circumcision, especially upon the cases he refers to. It can not be that the child is better off with a long prepuce than he is without it, for I have already mentioned many of the diseases to which a long prepuce renders the individual more susceptible to contract, and the Doctor mentioned some of these diseases himself. And, again, I am quite sure that the Doctor does not think that his method of treatment is less painful to the infant than a circumcision would be. In fact, the breaking up of the adhesions, the total removal of the foreskin and the suturing are no more painful to the infant than are the breaking up of the adhesions and the gentle dilatation of the phimosis at the first sitting. Then, with reference to the succeeding treatments of both operations, the painless after-dressings of the circumcision are not to be compared with the painful procedures of keeping the already instrumentally-irritated parts dilated and from readhering, until Nature is thus ready to keep them apart and dilated. Three or four after-dressings will usually answer for the circumcision. That many dilatations, etc., will not answer, as a rule, for the phimosis with adhesions. So, of the two operations, I think that circumcision is the less barbarous and, by far, the more rational as a prophylactic against disease.

It may be interesting, from a medical standpoint, otherwise I would not divulge the fact, for the writer to state that he himself was born with an exceedingly long foreskin, and that while it was never constricted, yet it was congenitally adhered more or less to the glans, and that it remained so up until he was about ten years of age. Since being graduated in medicine, the writer has circumcised numbers, and he has never seen such a patient who afterwards regretted that he was circumcised either.

It should be remembered that the prepuce, like the vermiform appendix, is not only a useless piece of anatomy, but that it is a worthless rudiment, and that it would be better for humanity detached than attached. The prepuce is responsible for circulating a greater variety of diseases and in producing a higher mortality (in women) rate, than the vermiform appendix does in both women and men together. A great majority of gynecological diseases have their origin from an unclean or a diseased prepuce during coitus, and in this way the prepuce is responsible for the death of numbers. Not only does the foreskin render the individual more susceptible to all genito-urinary and venereal diseases, but its predisposing nature is actually responsible for the great majority of them. Thus, a universal circumcision, within twenty-five or fifty years after beginning its general practice, would make diseases distressingly scarce for the genito-urinary specialist, and would limit the field of the gynecologist; but, in the meantime, it would also redound to the genito-urinary and venereal health of the nation.

The fact should not be overlooked that the absolutely virtuous man, who is possessor of a long prepuce, is not excused from many annoyances of his worthless appendage. He is not only liable, but is frequently subjected, to especially a continuously sore and tender glans, to more or less sexual passions, to nocturnal emissions, to herpes preputialis, balanitis, etc., to say nothing of the uncleanly sight and the odoriferous qualities of such a hooded organ, and the frequent washings that the decent man must subject it to. So the virtuous, as well as the non-virtuous, need to be circumcised.

In conclusion, I wish to state that I have replied to Dr. Scholer in good faith. His device for treating infantile phimosis, and the adhesions that frequently occur with the same, in cases where we can not get the parents' consent to circumcise, are two instruments of genius. His instrument "A" is a splendid device for breaking up the adhesions, even for a circumcision. When parents can be persuaded to allow their male infants, whether the little things have phimosis and adhesions or not, to be circumcised, I would advise

the doctor to take this course and not to try to reduce the operation of circumcision. In doing this, when the little fellows arise to the years of knowledge and reasoning, and behold the many evils for which a long foreskin is responsible, they will praise the name of the thoughtful surgeon who removed their greatest liability (the foreskin) to such evils.

[Written for the MEDICAL BRIEF.]

Asthma.

BY J. H. JERGESEN, M. D.,
Milwaukee, Wis.

No. IV.

When reading literature on asthma one may encounter such passages as "Asthma is a spasmodic contraction of the bronchioles; it is spasm of the chest; it is a disturbance of the respiratory centers; it is an inability to breathe, etc." Without analyzing the cause or giving a reason why that is so—that spasmodic asthma has a positive and specific cause, and that it always reaches the respiratory centers over the same track is evidenced by an attack in the different patients are all so near alike, that when one has seen an attack in one patient one has seen all there is to be seen in asthma, and when one has heard one asthma story, we have heard all that is to be told about it. It is further proved therein that the remedies which relieve one case will relieve the other to the same extent, even the time and circumstances vary but little, and an attack can be foretold to a certainty in most cases. That spasmodic asthma depends on a disturbance of the respiratory centers seems to be a well established fact; but how it reaches this center (the center commonly located in the medulla oblongata near the origin of the pneumogastric) seems to have been overlooked by the profession.

To explain this phenomena satisfactorily it has been necessary for me to establish a sub-center located somewhere in the cord below the fifth spinal nerve.

My reason for this diversion from the common rule is this: Asthma is caused by carbon-dioxide in excess in the blood circulating through the (what I shall now call) superior respiratory centers, but how can there be an excess of CO_2 at a time of night when oxygenation of the blood is the most complete and oxygen normally is in excess of normal. There must, therefore, to my thinking, be a primary cause which does not depend on the amount of oxygen in the blood, which primarily interferes with respiration, and which is able to derange automatic respiration to such an extent that CO_2 accumulates to excess in the blood and thereby precipitates an attack of spasmodic asthma.

In the following pages it will often become necessary to describe well-known anatomy and rehearse simple physiology and therefore risk being tiresome. If, however, our readers were not physicians, we might have found it prudent to apologize for such an occurrence; but, as it is, I deem it only necessary to mention the fact and add that I find it necessary to make myself understood. Normal respiration we know to be an automatic function and not under the immediate influence of the respiratory nerves—that is, the pneumogastric and phrenic nerves. Voluntary respiration, however—that is, singing, screaming, blowing and sucking —and in an attack of asthma, etc., are functions under immediate control of the nerves before mentioned. The automatic respiratory centers are, therefore, under above named conditions, inactive. That there are, besides the automatic centers, another center which has never been described or recognized as a special respiratory center, seems to be very reasonable, and the contending parties may all be right after all. The center in the calamus scriptorius lower end, in the fourth ventrical, which Flourence calls the "Knot of life," may be the voluntary or respiratory center, inasmuch as it is located near the origin of the pneumogastrics. The centers of Christiani and others, in corpara quadrigimina are the automatic centers of respiration. The quadrigiminate bodies are termination of the posterior longitudinal fasciculus, which is made up of association fibers of all the cranial nerves from the third to the twelfth nerve. According to Morris: The fibers of the seventh and the sensory fibers of the tenth are the second fibers of the fascicula mentioned. In Meckel's

ganglia we find the two meet again—that is to say, the motor root of the petrosal nerve arises from the geniculate ganglion of the seventh, from the same upper quadrigimina we know the motor root of the fifth also has its origin. There can, to my thinking, no other part of the central system be as well adapted to carry out the functions of automatic respiration as the superior corpus quadrigimina just now described. The respiratory centers for voluntary respiration we find as before said, at, or near, the origin of the tenth. In asthma, automatic respiration has ceased and voluntary respiration, and, therefore laborious, has taken its place. I reason from these facts that something must happen first, before the automatic respiratory centers can be deranged to such an extent that respiration becomes voluntary and laborious, because, as we have already pointed out, at the time and under the circumstances when asthma normally occurs, oxygenation of the blood is the most complete.

Whereas, asthma, as a rule, attacks its victim past the hours of midnight, after a patient has partaken of a late and indigestible supper, and, whereas, asthmatics most often are known to be dyspeptics, and of a nervous temperament, therefore, I conclude that a specific by-product is elaborated in the stomach to which the patient has, for the time being, a peculiar idiosyncrasy, that at other times are not so manifest. What that by-product is I have no idea; but I know it is a product of decomposition, and that it can be prevented by a judicious use of pepsin and creasote, and keeping the intestinal canal antiseptic by a daily Seidlitz powder. These by-products, elaborations of a faulty digestion, to which the nerves of the sympathetic system have a peculiar idiosyncrasy, produces a peculiar depressing reflex effect, not only the motor nerves, but in general, so much so that under the most trying struggle the patient is half asleep—he is powerless to move—and after he is relieved he has but a hazy remembrance of what has happened. At no time is he afraid of death—he only desires to be let alone.

Before, however, this condition becomes general, the depressant effect is local only, and the impulse is sent over the gastric nerves to the solar plexus, but before it reaches that organ it encounters the anterior branches of the phrenic nerves, and in this manner the local depressant disturbance is passed on to the diaphragm whereby its elevation, which is normal in expiration, is prevented. The impulse having been taken up by the solar plexus and sent on over the smallest, lesser and great splanchnic nerves to the spinal cord, passing through the column of Clark, on the same side, to gain the direct cerebella tract of Burdach. This sensation, however, is only the uneasy condition felt through the inability of the diaphragm to do its work properly. This sensation is supposed to end in the internal capsule, without a change of conscience, a reflex impulse turns back to assist the incapacitated organ. But before that has happened, the lesser and small splanchnic nerves—filaments of the lower dorsal nerves which gives filaments to the trunk of the ilio-hypogastric nerves which supplies the external and internal oblique, and the rectus abdominalis—the eleventh and twelfth dorsal nerves are in direct communication with the lesser and small splanchnic which supply the serastus posticus inferior—all those muscles we know to be accessory expiratory muscles. The reflex impulse received by these nerves are the same as taken up by splanchnic nerves, depressant and paralyzing in effect, and consequently those muscles are unable to follow the dictates of the mind to assist in expiration; the same as a drunken fellow is unable to help himself, although he feels strong enough to help any man in the world. While this is occurring through the medium of the lesser and small splanchnic, the great splanchnic carries the impulse through the dorsal nerves which gives filaments to the posterior pulmonary plexus before the nerves pass on to the parenchyma of the lungs, the effect here is depressant, the lung loses its resiliance, the bronchus its normal irritability, the secreting glands cease to functionate, and normal respiration is interfered with to such an extent that carbon-dioxide has accumulated in the blood, which, circulating through the respiratory centers, precipitate an attack of asthma, which may last

a long or short time, but only last until these injurious by-products of digestion by which the patient's idiosyncrasy has been aroused.

To overcome such depressant or paralyzing condition of the expiratory apparatus, the respiratory centers are stimulated by a voluntary exertion. A cry for oxygen comes from every red blood corpuscle and cell in the body; but the effort is of no avail, because the only nerve over which a voluntary effort can be produced is the pneumogastric, and as we know to be inspiratory accelerators only. The only effect is an augmented inhalation without the corresponding exhalation. It is true that the superior laryngeal are expiratory fibers, but the voluntary effort passed over that nerve amounts only to a long-drawn, painful and laborious exhalation, availing only as much as the superior laryngeal has control over the bronchus and their adjacent pulmonary lobes at the root of the lungs. The normal gentle collapse or the voluntary expiration, as in blowing, etc., are impossibilities so long as the paralyzing elements are operative in the stomach. I do not believe that spasmodic asthma is a part of hay fever. I do not believe their cause to be identical. Both I consider to be idiosyncrasies. Hay fever is influenced through the ganglia of Meckel, from external causes of diverse natures. While spasmodic asthma is also caused by external causes—that is, causes existing in the stomach capable of influencing the sympathetic system through the solar plexus. That a large per cent of hay fever cases end in spasmodic asthma must be explained therein that the cause, whatsoever it is, is capable of influencing the sympathetic system through the filaments of the vidian nerves. This, as I believe, need be an abnormal arrangement because we know that it is only a small percentage at most that ends in asthma. The statement: Whenever hay fever is successfully averted no asthma need be feared the coming night, may be explained therein: If he was compelled to sit in a dark room for seven or eight hours, straining himself in an effort to overcome his tendency to sneeze he would, bodily, be so tired and fatigued when the attack was at an end that that alone would lower his resistance to adverse influences, and very likely digestion would be delayed under this exertion, as well as it is under other, both mental and physical, exertion. When such a patient would, for one whole day, be engaged in one strenuous effort, after which was ended, and most likely then later than the hour an asthmatic usually eats his last meal, he would indulge in a repast to make up for lost time. Be that now as it may, as long as asthma in connection with hay fever does not differ from spasmodic asthma in general, I do not feel called upon to look for a cause different from the one just described as being initiated through the sympathetic system. This case of hay fever and asthma, described heretofore, was relieved by colon douches of ice-water and such other remedies tending to build up the system and produce an aseptic alimentary tract. This is now the fourth summer that the patient has been free from an attack. Of course, he uses the remedies yet when an attack, in his judgment, is likely to occur.

735 Third Street.

[Written for the MEDICAL BRIEF.]

Belladonna—Its Antidote.

BY R. I. SNELL, M. D.,
Detroit, Mich.

The effect of this narcotic drug, even in seemingly small doses, is never grateful, but causes, in different temperaments, different degrees of painful symptoms, great pain in head, neck, throat, back, with constriction of throat and esophagus, straining in micturating, with great drops of thick blood, also spitting of blood, dilated pupils, loss of vision, being the most common, with high temperature always. Delirium, spasms, coma and death being the result in toxic doses.

I discovered aconite to be the remedy and antidote, giving instant relief. I use small doses.

℞ Fl. Ex. Aconite.....8 drops.
Water (one-half tumbler).....4 ounces.

M. Sig.: One teaspoonful every fifteen minutes until three have been taken, then one teaspoonful every hour until relieved.

52 Plum Street.

[Written for the MEDICAL BRIEF.]

Religious Objectors to Doctors.

BY C. E. BOYNTON, M. D.,
Los Banos, Cal.

There is a marked effort being made to cater to the antidrug people. Several health journals are published denouncing the internal use of medicines. Christian Science, New Thought, etc., are efforts along this line. Osteopathy ditto.

Occasionally we see people who are seriously sick declaring with the utmost determination they will not take medicine.

A Mr. Blank called at my office and requested me to go to his child of eight years who was sick. Mr. Blank had been spoken of as inclined to attacks of mild insanity. At the time he called about his child he was rational, yet a trifle strange. His strangeness being natural. Others of his family have an odd history.

Mr. Blank, while speaking of his sick boy, remarked that he and his wife had been trying Christian Science upon him, but were finding it inadequate. Mr. Blank expected me to smile incredulously and was pleasantly surprised that I did not. I rode out to his place and found a boy of seven years with a moderately high fever. He (the boy) refused to allow a thermometer near him and fought like a little tiger when I attempted to place one under his arm. We gave up the battle and after crowding the glass against his body for the space of a minute I concluded that his temperature was about 103½° F. We forced a large dose of castor oil and calomel into the child and also gave him about six grains of quinine in palatable solution.

We presumed that the case was one of malarial infection. The child seemed perfectly rational, but simply fierce and determined not to be doctored. The parents both co-operated in perfect accord in the matter of administering the medicine that we forced the child to take. I then gave directions that two and one-half-grain tablets should be mixed in a glass of water and the child be urged to drink all of this water that he could. He did not detect medicine in the water, otherwise he would have obstinately gone thirsty.

The next day and the next this child improved, and was soon well. The oil and calomel did good work and these and the quinine were forced down the child once per day until he was well.

Usually I get the good will of children quickly and do not remember ever having seen a child as determined not to be doctored as this one. The talking of Christian Science in the home I am convinced developed the child's antipathy to being doctored. The father's mental twist caused him to take hold of the Christian Science. Mr. Blank was no fool. On the contrary, he was a reader and a thinker, but for all that what we would call a "crank"; just such a character as I imagine would easily adopt the Eddy sophistries.

Among the Mormons, or Latter-Day Saints, there was an antipathy to doctors, which is fast disappearing. It is reasonable and excusable for people to use their religious forms and ceremonies, prayers, etc., in time of sickness and death. Years ago the Mormon people carried this faith somewhat to an extreme, yet they give good excuses for so doing.

Way back in their history as a church, when persecution was rife against them in Missouri and Illinois, they called in "Gentile" doctors to administer to their sick. These same Gentile people butchered the poor Mormons fearfully at Far West, Haun's Mill, Nauvoo, and other points, and from a few fatal cases attended by "Gentile doctors" the Mormons declared that their sick had been poisoned. It was common in those early days for border ruffians to speak lightly of killing a d— Mormon, so it is no wonder that the Latter-Day Saints made the most of suggestion in their religion to treat their sick and barred out doctors all possible.

Today there is not anywhere a more enlightened people than these same Mormons of Utah, Idaho, Wyoming, New Mexico, etc. Now and then, however, the lingering fear of doctors remains, and this manifests itself sometimes in the children just as it did in the boy mentioned above, who had heard Christian Science preached in the home. In drawing this comparison the reader must not suppose for a moment that the Mormon

doctrines are anything like the Eddy absurdities. In fact, the fault that some clerical critics have to find with them is that even when enunciated by a boy they puzzle the wisdom of a divine.

Whenever therapeutic nihilism takes the form of a religious conviction and in extreme cases scruples are overcome and a doctor is called, the utmost tact is necessary in dealing with conditions. One old doctor stated it this way: "A physician must be as wise as an eagle and harmless as a dove."

Encountering a "Christian Scientist" a physician should restrain that wise smile of incredulity and contempt. Foolish as the Eddy heresy is, we should treat its proselytes with respect. Many a time one of them might call a doctor were he not in fear that the doctor would "insult him" on the score of "religion."

All this I have written to bring out this one point—no matter what religion your patient holds, no matter if he is a Christian Scientist even, do not argue with him. Take off your hat if necessary as quickly to his doctrines as any other. Do not antagonize, and sooner or later common sense will compel him to patronize real science, even though he professes Christian Science.

[Written for the MEDICAL BRIEF.]

Diphtheria, Tetanus, Consumption.

BY ROBERT R. TELLER, M. D.,
Arkansas City, Kan.

I have for the past five years been using carbolic acid and glycerine, hypodermically, in diphtheria, tetanus and consumption, with, what I believe, better results than my neighbors who use antitoxin. About five months ago I noticed an article in a medical journal of exophthalmic goitre being cured at the same time as diphtheria by antitoxin. I immediately tried same on three cases, all of this city. Mrs. V. G. H., left eye blind from cataract, and not enlarged, right eye bulging immensely—benefited greatly, but not cured. Mrs. J. A., who has been under my treatment three years; I made three injections and she declared it cured her. Miss D., eyes bulging, not cured, but much benefited, after fifteen injections.

I have a Mrs. P. under treatment, whose eyes are simply out of her head, and her heart is uncontrollable, and I am trying the same test in her case, but do not know if she will stand the full test, as she wants me to operate. I shall let you know what I decide to do. I think the above should prove that the carbolic acid carries the *virtues* of antitoxin.

Obituary.

Henry Darwin Didama, M. D., Albany (N. Y.) Medical College, 1846, dean of the Syracuse University College of Medicine, died at his home in Syracuse, N. Y., October 4, aged eighty-two. He was born at Perryville, N. Y., June 17, 1823, and was the son of Dr. John Didama. He received his early education at the Cazenovia Seminary and studied medicine at Geneva and Albany Medical Colleges. He moved to Syracuse in 1851, where he has since resided. He was a member and president of the City, Onondaga County and District Medical Societies; member of the Boston Gynecological Society, of the New York State Medical Association and of the International Medical Congress, held in Philadelphia in 1876. He was Professor of Principles and Practice of Medicine and Dean of the Faculty of the Syracuse University College of Medicine. He served for eight years as surgeon of the Fifty-first Infantry, and later as surgeon of the Sixth Division N. G. S. N. Y., and was Coroner of Syracuse and Onondaga County for twelve years. Dr. Didama was for many years a member of the American Medical Association and was one of its wheel-horses. He was Vice-President in 1875 and Chairman of the Section on Practice of Medicine in 1884. He had for many years been a subscriber to the MEDICAL BRIEF and we deplore his loss to the profession as well as to his clientele. To the medicinal world what has this man done, and what has he deserved? His epitome should read: "He is like the striking off of some flower from the tree of knowledge." The doctor met and mingled freely with all classes and fully understood human nature. He administered to all alike and exercised a great and good influence in the capacity in which he made his chosen theme, and had all the good qualities of a conscientious physician. *His just deeds will be rewarded.*

[Written for the MEDICAL BRIEF.]

The Effect of the Tides in the Production of Sex.

BY T. E. REED, M. D.,
Middletown, Ohio.

It seems necessary that we should reply again in support of the tide question. It is difficult for some persons to understand the *nature* of the tide cycle, to say nothing of its marvelous influence upon all organic and inorganic matter. Dr. Silas Hubbard still persists in displaying his—ignorance, shall we say? Hardly that, for the Doctor is not an ignorant man; let us call it thoughtlessness. The Doctor rather ridicules the advice we gave the physicians interested in this tidal influence study to procure from the government at Washington, D. C., a pamphlet tabulating the geodetic coast survey, in order to keep themselves informed from day to day of high and low water, or positive and negative forces which are everywhere present. The Doctor says, "I would like to know how that would help us, living in the interior States where we can not perceive the tides, and also where the tides are not the same in time in any two places." And then goes on to say that he can see no other way to demonstrate what we advocate regarding the control of sex than to take a trip to the coast, etc., etc.

In writing upon this subject we have perhaps taken too much for granted the intelligence of physicians in this direction, forgetting that our studies in anatomy and *materia medica* do not deal with the tide cycle and, therefore, should have a little more explicit explanation.

Now the above pamphlet gives tide tables for high and low water for the Atlantic Coast of the United States, including Canada and the West Indies. When we know the time of high and low tide on the coast, we have this same time for the whole interior, as well. For instance, the tide for Philadelphia is also the tide for the interior for all points in the *latitude* of Philadelphia, the time being the same, as time and tide advance together. In this way this pamphlet giving the tides for the whole coast line will also include the whole landed portion lying west of the points indicated on the coast, but every physician must make his own calculations from his point on the continent. We trust that this is made clear. The moon is the time-keeper for the tides. But one thing we must call attention to is the great irregularity of the tides themselves. Owing to the configuration of the ocean bed, all places on the same meridian do not experience high tide at the same time. Some places show a high tide one hour after the moon's transit, in other places high tide is as much as eight hours late, or eight hours behind the moon. High tide in the Hudson River is about three hours later than high tide at Sandy Hook, although the difference in longitude is extremely small. High tide in Long Island Sound is way behind high tide along the Jersey Coast, although the difference in longitude is not great. In some places, owing to the shape of the coast, the tide rises and falls four times in twenty-four hours, instead of two; while at a point on the northern coast of the Gulf of Mexico there is only one tide a day, the other being obliterated by the interference of two waves. Sometimes the direction of a tide wave for a time is toward the east. The only way to obviate these disconcerting facts is to go by what scientists term the *theoretical* high tide. That is, the tide as it would be if there were no continents to interfere with its progress, and the ocean were a uniform depth. High tide would then be marked by the moon's perihelion and aphelion.

A tide table prepared, then, independent of any coast lines entirely governed by the moon, as stated above, would be the most reliable for these scientific purposes for which we are contending. But for want of something better, and until this time comes, we can make what we have answer all practical purposes, as we have done in our investigations for several years.

Remember that it is the *effect* or influence of the tides with which we are dealing—the *cause* of the tides is not known certainly. Most of the "Science So-called" of astronomy is based upon *presumption*. The "law" of gravitation and the "whirling, flying globe" are only plausible theories worked out. No astronomer of note

can be found to declare these *facts*. Even our encyclopedia speaks of the shape of the earth as the *supposed* globe.

Hear the language of some noted astronomers. "The law of gravitation which underlies the whole of astronomy."—Sir Robert Ball.

"Universal gravitation * * * an *utterly impossible mode of action*."—Sir R. Phillips.

"We have no experience at all * * * the doctrine of universal gravitation then is a pure *assumption*."—Prof. W. B. Carpenter.

"The theory that motions are produced through material attraction is absurd."—Prof. Bernstein.

"What I call attraction may be performed by impulse or by some other means unknown to me."—Sir Isaac Newton.

"If the law of gravitation ever failed to be true, even to the smallest extent, for that period the calculations of the astronomers have no application."—Prof. T. H. Huxley.

By the words of these authorities the *assumption* of gravitation is accounted necessary to support the *assumption* that the world is a globe.

We could produce more evidence of this nature to show that these mysteries no man can explain. The *causes* are not known.

Unfortunately, what our learned astronomers advance as *theories* our college and school professors teach the young to be *facts*, and it is hard to undo what has been so ground into the minds of the people.

After his fifty years of investigations, it must be most gratifying to Dr. Hubbard to feel that he is making converts to his sex theories. It encourages us, as with such a good showing in seven years of what we claim to be the law dominating the sex, in the course of fifty years it will doubtless have proved itself to be a universally accepted fact. It may not be generally known that over five hundred theories have been advanced in an effort to find a rule or law to produce sex at will, but not one has touched upon the principle we are proclaiming.

[Written for the MEDICAL BRIEF.]

Calculi.*

BY EPHRAIM CUTTER, M. D.,
New York.

The *New York Medical Journal*, volume eighty, page three hundred and seventy-six, reports the 1904 meeting of the American Gynecological Society, stating that Dr. George M. Edelbohls, of New York, thus operated on a woman; also that Dr. R. Stansbury Sutton, of Pittsburg, Pa., said that he had used kaolin in dozens of cases of gall-stones on which he had forborne to operate, and the operation was not needed.

At the 1904 reception of the Massachusetts Medical Society, given by the Surgical Staff of the Massachusetts General Hospital, a man's right kidney was removed laterally, the left kidney being present. A large uric acid calculus was found in the pelvis. While the skill of diagnosis and operation was appreciated, the question came—could not this stone have been removed operationless? The two witnesses testify yes.

One would think that the addition of insoluble clay to the contents of the alimentary canal would add to this difficulty, to-wit: the insoluble salts of the bile. Be this as it may, Dr. Sutton's word must be accepted that kaolin dissolves gall stones, until other evidence disproves it. There is another mode of removal of calculi, *i. e.*, by drinking plenty of water to wash out and dissolve them and also to prevent their deposition, keeping the urine at 1015-1020 specific gravity—the flow at a normal density and the secretions ditto.

Origin of Calculi.—One is physical. Take sea water, made salt because its distilled vapor is condensed and descends on the earth as dew and rain, snow and hail, forms springs, brooks, rivers, ponds, lakes; dissolves all soluble salts it meets with, and some that are regarded as insoluble, and finally empties into the ocean whence it came, outletless save by evaporation. This process has been going on for ages or æons, so that the ocean has become the

**Disappearance of a stone that nearly filled the gall bladder, found and left in a case of anchoring the kidney and removing the appendix. Laparotomy for some other condition a year later showed the stone gone.*

possessor of, besides the sodium chloride, a very large number of elements, even gold. Thus the sea is salt, so are the Dead Sea and Salt Lake. Evaporate the given portion of sea water to dryness. All its salts are deposited in solid form. From this simple action comes the law that salts are deposited from this menstrua at the same temperature if their menstrua are over-saturated or dissipated in quantity.

The San Domingo mountain of clear rock salt evidences that the ocean itself had not water enough to hold said chloride of sodium mountain in solution, unless it was created as such. If the evaporation in our experiment is rapid the salt will be deposited in amorphous and granular forms. If the vaporization is slow, the salt will crystallize, nucleus or no nucleus. The said mountain of salt, almost as clear and diaphanous as glass, must have been formed by great pressure, as in glaciers we see the snow compressed into solid ice.

The conventional theory as to calculi is that they are formed on nuclei of epithelia, because epithelia are found inside said calculi. Considering the innumerable epithelia that are continually cast off from the human body, inside and out, calculi ought to be more common than they are now, if epithelia were solely causal. Their presence in calculi is to be expected when there are so many swimming in the menstrua of the calculi. Put a string into syrup and candy will crystallize on the string and also on the walls and bottom of the container where there is no string. If the syrup is hot, the candy will separate as the syrup cools. So freshly voided urine deposits crystals as it cools. Heat helps to dissolve salts in a menstruum—same perhaps in the yolks of eggs that crystallize on heating; also in the whites of eggs that become solid but do not crystallize. There must be, then, other causes of calculi than epithelia. Such are:

A. Waters of Limestone Districts.—In the Wistar Museum of the University of Pennsylvania there was, and probably is, in a collection some one thousand calculi, removed from the urinary bladder of the United States Chief Justice Marshall, living 1755 to 1835. The teaching given was that there was an excess of lime in his drinking water, hence a deposit of calculi. This explanation has not been refuted. The principle being that there was not water in the body sufficient to keep mineral matters in solution inside.

B. Drinking Spring Water Two Hundred and Thirty-two Grains to the Gallon.—An 1861 veteran came under the care of my son, Dr. John A. Cutter, for albuminuria, renal casts and fatty epithelia, free oil in blood slide and fat in leucocytes. He had been drinking the said water for the removal of urinary calculi; had voided several—one of uric acid, larger than a pea, and which the Spring Company bought for five dollars, as a proof and trophy of the efficacy of said water. But this seemed to be a like case to the Chief Justice Marshall's; that the two hundred and thirty-two grains to the gallon simply manufactured, so to speak, the voided calculi, making them in place of removing them. My son was advised to put him on distilled water, or on some spring water of not more than nine grains of salts to the gallon. It was done in connection with the treatment for degeneration. This happened several years ago. Since then this veteran has voided no calculi and his health is restored. The disappearance, in this case, was due to stopping causes and *natura naturans* cured.

C. Excess of Vegetable Kingdom Food.—Sclerosis of the temporal arteries is a variety of calculi. The older writers called it atheroma or cholesterine re-entrant angled crystals that are also found in gall stones.

Some years ago, a physician in Germany resigned and left the presidency of a vegetarian* society because his temporal arteries were becoming stony, saying that inelastic arteries mean death.

The immense calculi, some weighing over ninety pounds, in the museum of the Royal College of Physicians and Surgeons, London, that were removed from the guts of cattle, also prove the possibility of intestinal calculi coming from herbivorous food, and yet, it may be, were

*NOTE—Vegetarian is a misnomer. Man cannot live without the minerals, air and water, and without the spiritual kingdom foods, on which feed the mind, intellect and understanding. Vegetarians breathe, drink and think.

the natural history of said cattle known, that they had had scant supplies of water, or water overloaded with salts.

Those who study the morphology of human feces and have seen for many years the abundance of beautiful crystals and crystalline bodies therein, are not surprised at said cattle intestinal calculi, but are amazed at their exceeding great size—that is phenomenal. If cattle present such giant calculi on food they were meant to eat, why should not omniverous man have calculi on vegetable food in excessive quantities?

D. Bacteria.—These are Schizomycetes plants, allied to algæ and like fungi. The idea of their being causal calculi is supported by a study of teeth tartar. The one-seventy-fifth inch objective has shown that along with tartar bacteria there are oscillating mycelial filaments that move with greater velocity, apparent force and vim than of the oscillatoriaceæ observed during twenty-five years of study of the fauna and flora of hydrant waters and sources. The writer thinks that as the anthozoa (flower animal) and hydroids secrete coral in vast masses; as the oyster, clam, scallop, razor fish and lobster deposit their shells, and possibly as the cells that form our bones, teeth, nails, hair, cartilages, come as crystalline lenses, and so also that the fungoid and algoid vegetation of the oral cavity deposit tartar, only that the latter is an abnormal action, while the former processes are normal and physiological. The fact that hydrogen binoxide kills the tooth parasite and dissolves more or less completely the accompanying tartar, goes to show that bacteria are causal of calculi.

As the alimentary canal swarms with bacteria in health and does not produce calculi, it is evident that tartar bacteria are unlike intestinal bacteria. All things are separable into good and bad, as old whales, old horseshoe crabs, old oysters, are more liable to incrustation of stony kinds, may it not be that a diminished vitality allows bacteria to deposit calculi that they do not when the organs are in full health and vigor?

E. Sluggish Circulations.—If the evaporating sea water is kept stirring, the salts do not crystallize. But if we keep the circulation lively in the gall bladder, for example, is it not possible that the stones might be washed out? In the case alluded to in the beginning, of the large gall stone, may it not be that the abdominal surgery quickened the circulation so that the stone was dissolved? Perhaps the following cases may illustrate, though they regard in one a cartiliginous enlargement and in the other thickened plantar fascia.

Once the laryngoscope showed a throat trouble to be an enlargement of the tip of the left arytenoid cartilage, the size of a grape. This was in the early days of the laryngoscope, so the writer was thrown on his own resources, never having met such a case, nor known of one from the literature of specialists. The thought was that here was congestion and sluggish circulation. The blood vessels were passively dilated, and stasis ensued. A special knife was invented, with which, under the mirror, the arytenoid was thoroughly scarified, though it felt like bone. Mouthsful of blood were expectorated at each scarification. After a few such operations the case was cured by *natura naturans*, re-establishing normal metabolism through the restoration of the sluggish circulation.

A man once ran a large sliver of wood into the sole of his foot. After a considerable time he applied for its removal. There were present all the physical signs of the sliver under the skin and in the plantar fascia. The site of entrance was fully healed over. Cut into deeply, no sliver was found. Another deep, parallel incision was made—no sliver found. The two were connected by an even incision, so that the three incisions made an H. The finger, thus admitted, found no sliver, but the recovery was perfect. The man did not remember the withdrawal and we were deceived by the exact imitation of thickened tissues.

Retardation Does Not Always Cause Calculi.—A child, two and one-half years old, a patient of my father, Dr. Benjamin Cutter (1804-1864), suffered from an enlarged and thickened urinary bladder, of which it died. At the autopsy, both ureters were found to be of the same size as the large intestine. Both kidneys were twice their normal size and distended with urine. The vesical walls were about

three-fourths of an inch thick, which thickness acted as valves on the terminal ureters running diagonally and stopped them while the kidneys kept pumping in the urine and distending both ureters and both kidneys as said. But there were no calculi found in the urinary tract of this child.

G. Chief Source of Calculi is in the Blood that is Not Sufficiently Diluted to Hold in Solution its Normal Saline Matters as a Menstruum.

As he was taught, so has the writer found, for many years, amorphous and crystalline bodies in the human blood stream that have been subsequently removed by the use of water, generally hot, one pint before each meal and on going to bed. He can not remember a case where this result has not followed such therapy. He was taught and believes from experience that rheumatism is mainly a blood gravel that is deposited from the blood where the circulations are weak, as about the joints, in the bones and in the skin. This gravel is attended by adhesive, sticky, ropy red discs, by enlarged white discs sometimes, by enlarged fibrin filaments, single, multiple, in skeins, in thrombi, which enclose crystals sometimes.

Some of these blood crystalline matters are (1) uric acid and urates; (2) oxalate of lime; (3) carbonate of lime; (4) triple phosphates; (5) cystin; (6) stellin; (7) stellurin; (8) cholesterine, etc. *Natura naturus* tries to rid the blood of these by:

1. The skin. Dermal surface crystals are often found, as the microscope will show. Sometimes the crystals are deposited in the skin, as seen in a late case of carbonate of lime rheumatism. It was easy to scrape out perfect crystals that an eminent chemist analyzed and found to be CaO, CO_2.

So also urate of soda (gout) is sometimes seen as snow laid on the raw ulcerations.

2. By the lungs. In amorphous and crystal form, and often enclosed in the mucous corpuscles called giant, from distension. A patient said, "I have coughed up a rib." Sawn in two, it was a calculus.

3. By intestines.

4. By kidneys.

5. By the liver.

Example.—Man, forty years old, helpless as a babe. Rheumatic arthritis. Blood gravel. Wanted to get well medicineless. "Drink from two to four gallons croton water daily." He did. In one month he was at work.

Good American medicine for calculi, to which I, as several witnesses, testify. Keep the blood density normal, urine 1015-1020 specific gravity, skin clean, lungs free, intestines soluble, stomach, liver and kidneys washed out by good, pure fresh water.

949 Broadway.

[Written for the MEDICAL BRIEF.]

Principles Involved in the Treatment of Narcotic Drug Addictions.

BY GEO. E. PETTEY, M. D.,
Memphis, Tenn.

The following conclusions are based upon the clinical study as well as the experience acquired in the treatment of a large number of cases of narcotic drug addictions, and may be accepted as fully established.

Autotoxemia is the essential pathology of the narcotic drug addictions.

When the system is freed from toxic matter and the portal system disengorged, morphine or other narcotic drug can be at once withdrawn without shock, collapse, heart failure, diarrhea or other dangerous symptoms, and the suffering incident to such withdrawal will subside within a few days without further treatment of any kind. This suffering, severe as it would otherwise be, can be obviated and these days passed in comfort by the discreet administration of hyoscine.

All desire for the opiate, as well as the necessity for its use, is overcome by such a course of treatment.

Patients thus treated have little, if any, tendency to relapse, unless they originally began the use of the drug as a dissipation. In that case, the same tendency to dissipate, the same perverse traits of character, will remain, and these can not be overcome by therapeutic measures. Where no element of dissipation entered into the original formation of the addiction, that is, where the addiction was

formed inadvertently, or because of the use of the drug for the relief of some protracted, painful ailment, which has either disappeared or is curable, a permanent cure of the addiction may be expected.

No cure of a drug addiction can reasonably be expected by any plan of treatment which entails severe or protracted suffering, such as do the reduction methods heretofore in vogue. To effect a cure the patient must be protected from severe suffering, nerve strain and damaging mental impressions.

No drug patient can be considered cured until he is made mentally and physically independent of all drugs, taught to rely upon his own resources and fully convinced of his own ability to do so. His habitual dependence upon his drug must be supplanted by independence and self-reliance. No drug patient can be considered cured so long as he takes a tonic or drug of any kind. He must not only be freed from the drug to which he is addicted and all substitutes for it, but also from all tonics or other remedies used in his treatment upon which he might place even a mental reliance. He must be developed to such a state of mental, moral and physical health as not only to have no desire for drugs or stimulants, but also to feel no need of them.

Discipline and psychological treatment are as important in many cases as are therapeutic measures.

A well-directed course of physical training is one of the most effective means of insuring permanency of cure. The long continued use of either drugs or alcohol brings about a state of profound anemia. When a patient is freed from the thraldom of these poisonous agents by a proper course of treatment, his appetite and powers of digestion soon become vigorous and flesh is taken on at a rapid rate. If left to itself, this rapidly acquired flesh becomes an encumbrance rather than a resource. The patient becomes sluggish, tires easily on exertion and complains of intolerable weakness. He should not be allowed to get into this condition. By a well-regulated course of physical training, begun as soon as the active therapeutic measures are completed, every pound of the newly-acquired flesh, as well as much of the flabby tissue the patient already has, can be converted into stout, firm, muscular fiber. In this manner a fund of reserve physical force may be developed, which will enable the erstwhile nervous, anemic wreck to stand the strain of his ordinary vocation without feeling the need of stimulation, and this will fortify him against relapse in the most effective manner. This result may be had in every case where the faithful co-operation of the patient can be secured, if the addiction is not complicated by some incurable disease. The course of physical training should be continued for several months after the patient's return home and the standard of health kept up to the highest possible degree.

958 Davie Avenue.

[Written for the MEDICAL BRIEF.]

Cerebro-Spinal Meningitis.

BY JAS. F. PARKS, M. D.,
Washington, Indiana.

I have passed through two epidemics of cerebro-spinal meningitis, that of 1868 and 1886-7. The most effective treatment I ever used was as follows:

℞ Fluid Ext. Ergot.....1½ parts.
Tinct. Calabar Bean.....1 part.
M. Sig.: For an adult thirty drops every two hours and children in proportion.

For the intense pain in the head I used pulverized opium, enough to give relief. The bromides were entirely too feeble in my hands for me to rely upon, and as my life work has been in the Wabash Valley, where malaria complicates every other disease, I used from two to four grains of quinine each morning.

This is a brief outline of the most effective treatment that was employed here during the epidemic of 1886-7.

Would like for the brethren to write and exchange views in this very grave disease.

Please find enclosed one dollar for the MEDICAL BRIEF for a year. I find a great deal of interesting reading matter in the MEDICAL BRIEF.—R. L. St. John, M. D., Howland, Mo.

Book Notices.

LE FEVRE'S DIAGNOSIS. A Manual of Physical Diagnosis, including Diseases of the Thoracic and Abdominal Organs. For Students and Physicians. By Egbert Le Fevre, M. D., Professor of Clinical Medicine and Therapeutics in the University and Bellevue Hospital Medical College, Attending Physician to Bellevue Hospital and to St. Luke's Hospital, New York. New (second) edition, thoroughly revised and much enlarged. In one 12mo. volume of four hundred and seventy-nine pages, with one hundred and two engravings and six full-page plates in black and colors. Philadelphia and New York: Lea Brothers & Co., Publishers. Price, cloth, $2.25.

In this work the author gives his own methods of teaching. These methods are the outcome of many years of successful experience; therefore, there is originality in this work, which should be an incentive for physicians to thoroughly read it. Especial emphasis is laid on the altered anatomy of the organs under examination, and the relation to the physical signs. It has been thoroughly revised and up to date; some of the sections of the first edition have been entirely rewritten. Noteworthy among the new features of this edition are the very complete revision of the chapter on topographical and relational anatomy and the new illustrations in this portion of the book, the new X-ray illustrations of the heart outlines, and the new illustrations of cases of cardiac disease. The first edition was repeatedly commended as "the best manual procurable on its subject," but the present deserves even a stronger recommendation.

BERG'S SURGICAL DIAGNOSIS. A Manual of Surgical Diagnosis. For Students and Practitioners. By Albert A. Berg, M. D., Adjunct Attending Surgeon to Mt. Sinai Hospital, New York. In one 12mo. volume of five hundred and forty-three pages, with two hundred and fifteen engravings and twenty-one full-page plates. Philadelphia and New York: Lea Brothers & Co., Publishers. Price, cloth, $3.25.

Dr. Berg is exceptionally well qualified to furnish a most practical and useful book, by reason of the fact that the surgical service of one of the largest and most perfectly appointed hospitals is, and has been for years, directly under his observation. The wide range of his experience and the broadness and accuracy of his knowledge are clearly reflected in the completeness and precision of this manual. It is a work admirably adapted to the needs of the student and equally valuable to the general practitioner or surgeon as a concise and trustworthy guide in the diagnosis of all surgical affections. The author has also presented the methods of diagnosis of kidney function, the diagnosis of diseased conditions of the kidney from the appearance of the ureteral orifice, the early diagnosis of tuberculous diseases of the articular ends of bones, etc., which it is hoped will be of especial interest to every practitioner of surgery. Consideration of the best method of developing the subject for his readers has led him first to give a concise clinical picture of each disease, including its cause, onset and course, and in certain cases the accompanying pathological changes. In each instance he has indicated the points of difference between the disease under discussion and other diseases which might be mistaken for it. Aseptic methods and improvements in operative technique have during recent years brought the internal organs within the range of successful treatment, and this enlargement of the surgical field has necessitated the introduction of new methods of diagnosis and improvements upon the old. In the present volume the author has endeavored to cover the whole subject concisely and in its most modern development.

MINOR AND OPERATIVE SURGERY, INCLUDING BANDAGING. By Henry R. Wharton, M. D., Professor of Clinical Surgery in the Woman's College; Surgeon to the Presbyterian Hospital, Philadelphia, Etc. New (sixth) edition, enlarged and thoroughly revised. In one 12mo. volume of six hundred and forty-two pages, with five hundred and thirty-two illustrations. Philadelphia and New York: Lea Brothers & Co., Publishers. Price, cloth, $3.00.

Dr. Wharton's work has for many years been the accepted authority in its field, and justly so. In its many revisions its scope has been gradually broadened in response to the suggestions of its many readers, so that in the present edition it really covers all except what might be

termed capital surgery. Thus, there have been included many operations, such as tracheotomy, intubation of the larynx, operations on the stomach, gall-bladder, kidney and intestines, and those for appendicitis and hernia, together with many others which are somewhat beyond the vague line which separates major from minor surgery. The increased attention which is given in the medical colleges to operative procedures on the cadaver and the importance of this method of instruction have led the author to include those operations which can be advantageously taught in this way, such as ligation of arteries, amputations, excision of joints, operations upon the nerves and tendons, intestinal anastomosis, etc., etc. The various bandages and surgical dressings are clearly described, and illustrated by numerous engravings, many of which are photographic, and all of which are most helpful. Particularly will the helpfulness of the illustrations be shown in the section on bandaging, where almost every variety of bandage or dressing is explained in detail, and shown with such clearness that a novice could scarcely fail in the application of one. The importance of sepsis and antisepsis has received full consideration, and surgical bacteriology is covered in a special chapter.

IMMORTALITY. The Principal Philosophic Arguments for and Against It. By William Colby Cooper, M. D. Published by the Author, Cleves, Ohio.

The author says, "I merely wish to state here that in writing this book, I have cared more for its matter than its manner. Almost none of it has been written with much reference to literary effect. If it happens that such of it as displeases you should please another, then we should all be satisfied. Anyhow, I herewith dedicate the little volume to all thinkers, and all seekers after truth." To all thinkers this work appeals, but to those who have no ideas, we would say do not read it, or it may cause you to waste time in thinking along a line of thought that would elevate.

THE PHYSICIAN'S VISITING LIST (LINDSAY & BLAKISTON'S) FOR 1906. Fifty-fifth year of its publication. This list is now on sale at prices ranging from $1.00 to $2.25 as per size.

AUTOLOGY (STUDY THYSELF) AND AUTOPATHY (CURE THYSELF). By E. R. Moras, M. D., Chicago, Ill., Graduate of Harvard University Medical School, 1888; of College of Physicians and Surgeons (Chicago), 1889; formerly House Physician and Surgeon in Cook County Hospital (Chicago); Professor of Obstetrics, College of Physicians and Surgeons (Chicago); Member Chicago Medical Society, Etc. Chicago: Published by the Author, 1403 Washington Boulevard.

The aim of this work is to prove the principles of a practice of Curative Science based on the discoveries in physiologic and pathologic chemistry of such authorities as Virchow, Max Schultze, Pasteur, Hoppe-Seyler, Ranvier, Gautier, Brieger, Bouchard, Hammersten, Bunge, Herter, Vaughan and Novy, and through them brought up clinically to the accuracy of mathematics by the author. If you wish to read along a scientific line as depicted by such eminent authorities we would suggest that you write the author for a copy of his work.

THE ERA KEY TO THE U. S. P. A Complete List of the Drugs and Preparations of the United States Pharmacopeia (eighth decennial revision, 1905). Giving Official Titles, Common Names and Synonyms of the Drugs, Chemicals and Preparations of the Pharmacopeia. With Average Doses, in Metric Weights and Measures, with Equivalents in the Apothecaries' System. First edition. Originated and Compiled by the *Pharmaceutical Era*. D. O. Haynes & Co., Publishers, New York. Copyrighted.

For the busy practitioner this will save much time, as it serves to simplify the task of hunting for some item in a work such as the Pharmacopeia is.

ORGANOTHERAPY, OR TREATMENT BY MEANS OF PREPARATIONS OF VARIOUS ORGANS. By H. Batty Shaw, M. D. (Lond.), F. R. C. P., Lecturer in Therapeutics, University College, London; Assistant Physician to University College Hospital and to the Hospital for Consumption and Diseases of the Chest, Brompton. Illustrated. Chicago: W. T. Keener & Co. Price, $1.75.

BIOGRAPHIC CLINICS. Vol. III. Essays Concerning the Influence of Visual Function, Pathologic and Physiologic, Upon the Health of Patients. By Geo. M. Gould, M. D., Editor of *American Medicine*, etc. Philadelphia: P. Blakiston's Son & Co. Price, $1.00.

THE MEDICAL BRIEF

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J. J. LAWRENCE, A. M., M. D.,
Editor and Proprietor

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Editorial.

The Metric System.

Many of our citizens of foreign extraction are constantly striving to import their native customs and institutions to this country. Their energies at present are directed toward influencing Congress to establish the metric system as our legal standard of weights and measures. Have you heard any of your brother practitioners advocating such action? The Editor of the BRIEF has been investigating on his own account to ascertain the conditions of opinion among American druggists and physicians regarding the proposed substitution of the metric system for the existing standard of weights and measures. Up to date, the inquiry has shown a decisive majority in favor of retaining the present system, the only dissenting opinions coming from the foreign-born members of these professions. Many of those approached state they do not believe so drastic a step to be advisable, for the simple reason that the present system has proven itself entirely satisfactory for all practical uses. The units of value handed down by our fathers are so thoroughly established in the minds of the people that any change would work a great hardship, and we should require unthinking enthusiasts to advance some more potent argument in favor of the metric system than that it is "made abroad." It is undeniable that the innovation would be made at heavy cost—not only would it cause money losses through the resulting confusion in commercial circles, but the errors of druggists and physicians before becoming accustomed to the new order of things would result in the loss of a thousand innocent lives. This item of inevitable accidents is deserving of some consideration in connection with the current discussion. Do you know a native-born American druggist or physician who favors the metric system?

Benefits of Fasting.

Doctor, do you ever stop to think that in some cases fasting gives better results than medicine?

Fasting can be carried to extremes, of course; doubtless at one age of the world it was, but nowadays the profession has gone to the other extreme and too frequently overlooks the advantages to be derived from this procedure in cases to which it is well adapted.

Persons who eat heartily, who are troubled with indigestion and who will not take enough exercise, will often improve on a two or three days' fast after medicine has failed to give any relief. This applies particularly to persons who are not in a weakened or rundown state.

When food is resumed it should be given in moderate quantities and in a light and digestible form.

We all know how an animal, when sick, will refuse to eat until it is hungry, and there are patients, particularly those of a bilious temperament, in whose cases wonderful results can be obtained simply by abstaining from food a short time.

Of course, in most cases, you will have to give a placebo for the sake of appearances. The patient wants to feel that you are doing something and you will have to give a remedy to hold the case and to induce the patient to refrain from food. Few patients will follow your advice unless they are also taking your medicine. They may be willing to stop eating for a little while to enable the medicine to get a better hold on the system, or to do anything which looks rational to *them*. Not many people are sufficiently advanced to know how exceedingly simple life really is—just a few undeviating laws, compliance with which makes life happy and healthy.

This is one of the times when the end really justifies the means. The patient will always believe the medicine accomplished the good results, but without it he or she probably could not have been induced to give fasting a trial.

You will find it well worth your while to see what fasting can do in chronic diseases. There are always errors of digestion and faulty assimilation in these cases. The organs which are giving trouble get a rest and the whole body is set thinking by the physical emergency thus created. Dormant powers are revived. The great sympathetic nerve, in particular, is stimulated.

Fasting is a therapeutic procedure which deserves more general recognition. It must be used with judgment, of course. Fasting lowers blood-pressure and may cause certain unpleasant subjective sensations, such as dizziness, sinking at the stomach, trembling and weakness. Bed is probably the best place for those who are fasting, and a circulatory stimulant will mitigate the unpleasant sensations if they are pronounced. In many cases fruit juices can be taken with benefit during the fasting.

QUESTION.—Are you in favor of an official being appointed by each city to act as censor of the drama and decide which plays are moral and which immoral, so that the stage shall present nothing improper before the public? The above query was recently put the Editor, and he replied that he would be opposed to such regulation of the theater because it offered well-nigh irresistible opportunities for graft. We are best able to judge the future by the past, and our knowledge of how such offices are usually administered affords ample ground for the fear that this would be one more instance of the little fellow being the one to suffer—unable to pay the tribute demanded, he would often be unjustly discriminated against, while the agent of the theatrical trust would require only his check book to convince the guardian of the public morals that his play was as good for the audiences as any sermon. We are constantly hearing of corruption in connection with government inspection, and the various bureaus that have been created to protect the people against every imaginable danger, and there is abundant proof that some private corporations are even greater hot-beds of dishonesty. The medical profession itself is not entirely free from graft. From time to time prophets arise who make it their business to praise some proprietary medicines, while branding others as unreliable and of practically no value, though the latter may be in daily use by thousands of thinking physi-

cians. No doctor is fooled by such statements whose practice has continued long enough to make him familiar with the methods of these grafters. It is perfectly clear to him why some men are so greatly concerned lest the physician be unable to take care of himself and incompetent to decide what remedies are best for his patients.

[Written for the MEDICAL BRIEF.]

Uro-Genital Tuberculosis.

BY JOSEPH RANSOHOFF, M. D., F. R. C. S., ENG.,
Professor of Surgery and Clinical Surgery in the Medical College of Ohio; Department of Medicine, University of Cincinnati; Surgeon to the Cincinnati, Good Samaritan and Jewish Hospitals, etc., Cincinnati, Ohio.

Professional opinion regarding tuberculosis of the genito-urinary tract has undergone some remarkable changes. In former years it was believed that the bladder was the *fons et origo mali*. It was believed that from the bladder the disease extended upwards to the kidneys, downwards into the prostate and, finally, involved the testicles. The fact that in the female tuberculosis is encountered in the tubes and in the kidneys as a separate disease gave the first intimation that genito-urinary tuberculosis in the male ought really to be classified as follows:

Cases springing from the urinary tract, and second, cases springing from the genital tract. In regard to both classes it can now be stated with certainty that the disease either begins in the kidney in the vast majority of cases and spreads downwards, or in the testicles in the largest percentage of cases extends from infection of the vas deferens to the seminal vesicles to the prostate, and to the bladder in the order of structures named.

In the consideration of tuberculosis of the testicles this is a vital factor. While it is true that rarely the infection may extend from the prostate and seminal vesicles to the testicles, in the great majority of cases the testicles are first involved. In every case of tuberculosis of the testicles, an examination, which is usually forgotten, ought to be made. That is, digital examination of the rectum to determine whether or not there is any involvement of the prostatic gland, or of the vesiculæ seminalis. Examination of the urine must always be made. The tubercle bacillus being non-motile, an infection backwards from the vas would be explained with very great difficulty. Fortunately, there is no need for such explanation, because the testicle is usually the seat of the primary involvement. The surgeon frequently sees cases when it is difficult to determine where the disease began. One or both the testicles, the prostate, the bladder, and perhaps even one of the kidneys, is the seat of tuberculosis, and of secondary pus infection. In the far-advanced cases great relief can be given by unilateral or bilateral castration, and by thorough drainage of the bladder, with curettage of the prostate, the operation being followed by change of climate, whenever feasible. There is probably no class of tubercular subjects in whom the climate of Arizona or New Mexico works greater wonders, one might say, than in cases of uro-genital tuberculosis, even though far advanced. It is in beginning of tuberculosis of the testicles that the question arises: What is best for these patients?

If an examination of the prostate reveals an absence of involvement and the disease is limited to one or two hard nodules in the testicular appendage, the fact that this occurs so often in the young and sexually vigorous justifies one in resection of the epididymis and of the vas. If there is such a thing as the internal secretion of the testicle, it will be saved to the patient. Even in these cases, however, the vas ought to be removed as far as possible by evulsion. If the vas, with the epididymis, is isolated from the vessels of the cord which are ligated, by gentle traction on the vas, almost all of it can be drawn into the wound until, when rupture finally takes place, it will be seen that ten or twelve inches of the tube have been drawn out. When it is considered that it is through the vas that the infection proceeds towards the prostate, and that the vas itself frequently shows tubercular nodules, the importance of this evul-

sion is made manifest. If the testicle is involved, as well as the epididymis, nothing short of castration, unilateral or bilateral, ought to be attempted. Here I have for a long time taught that the removal of the tunica vaginalis is a *sine qua non* of rapid closure of the wound, and as a preventative of local recurrence. In almost every case of tuberculosis of the testicle that is far advanced, miliary nodules can be seen, often in profusion, in the tunica vaginalis, and particularly in the parietal layer. Whereas the normal seminal vesicles are felt with difficulty by rectal touch, when they are the seat of disease they are easily recognized.

With the great advance in operative technique the vesiculæ seminales have been made the object of operative interference for tuberculosis. Resection of the sacrum, with drawing aside of the rectum, has often been practiced by German surgeons. When one considers, however, that so many of these subjects are, by reason of great suffering, thamuria and pyrexia, greatly reduced, one can not, in my opinion, counsel so extensive an interference. As a part of prostatotomy or prostatectomy through the horseshoe-shaped perineal incision there is some justification for curetting and removing the seminal vesicles in tuberculosis; excepting, however, in this regard it does not seem to me that vesiculectomy will ever become an operation frequently done. There is a class of cases in whom both testicles are involved simultaneously, or the one soon after the other, in whom, before any operative interference is resorted to, a change of climate is advisable. Failing to do good, operative interference after the manner indicated is in order. For perineal resection of the epididymus and vas very excellent results have been recorded, and it can be said in the way of extending hope to these despondent subjects of tuberculosis that unilateral, and even bilateral, castration, if done in time, is followed by a permanent cure in from fifty to sixty per cent of the cases. Furthermore, if the disease develops in a full-fledged adult, sexual vigor, while impaired, is by no means lost.

19 West Seventh Street.

[Written for the MEDICAL BRIEF.]

Periodical Deafness.

BY W. E. MANCILL, M. D.,
Cisco, Texas.

I want to report to the BRIEF what I call a very singular trouble that I know of in a man that I suppose to be about fifty-five years of age. He came to me in September, 1879 or 1880, and reported to me that he was perfectly deaf in one ear. I made as careful an examination as I could, and found the ear in perfectly normal condition, as far as I was able to tell. I could see no difference between it and the other. Then he gave me the following history of the case: About six years before, on or about the first day of September, he woke up in the morning to find that he could hear in but one ear. He remained in this condition until the last day of the same month, when he woke up to find that his ear was all right, his hearing just as good as ever; and that every year exactly at the same time, he loses the hearing in this same ear, and at the same date, which is the last day of September, his hearing returns. This man, whose name is Whitesides, lives in Stephens County, Texas, about twenty miles from where I live in Cisco, and is a farmer. This city being his market, I see him several times every year, and often talk with him about this trouble. I saw him a few days ago, he told me that there had been no variation in dates of its coming on or going off, except one time, that was a few years ago, when it varied, I believe, about five days, but at no other time had it varied two days, and always lasts exactly thirty days, no more and no less. There is no pain at all, and never has been. There is a roaring and deafness, and that is all there is of it. Mr. Whitesides has been examined by different specialists without any discovery being made as to the cause. It goes and comes (so to speak) of its own accord.

If any of the BRIEF readers have ever met with a similar case, or can throw any light on the matter, I would be glad for them to let us have it through the MEDICAL BRIEF.

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[Written for the MEDICAL BRIEF.]

Locomotor Ataxy and Its Treatment.

BY FREDERICK W. PRICE, M. B., C. M. (EDIN.), M. R. C. P. (LONDON).
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It was the German physicians who, in the early part of last century, first gave us a rough description of this interesting malady, but we are indebted to Romberg for what may be called the first authoritative account, which was published in 1846. Since that time many observers have contributed to our present knowledge. Duchenne named the disease "locomotor ataxy," and it was Todd who discovered its relation to a degeneration of the posterior columns of the spinal cord. We now know, however, that a similar change also occurs in the posterior nerve-roots. Westphal and Argyll-Robertson, by their respective discoveries of the loss of knee-jerk, and loss of pupil light-reflex, have enormously aided the certain diagnosis of the disease in its early stages.

Etiology.—Locomotor ataxy is much commoner in males than in females, the proportion being about ten to one. It usually commences in middle life. By far the greatest antecedent cause is past syphilis, for undoubtedly a clear history of this disease can be traced in at least two-thirds of the cases and, indeed, some authorities give a considerably higher proportion. It seems fairly clearly established that the attack has frequently been a very slight one; it may have altogether escaped the notice of the patient. On the other hand I am strongly of opinion that it should not be supposed that every patient who suffers from tabes dorsalis has had syphilis. It is not scientific to assume that because a history of syphilis is present in such a large proportion of the cases, it has necessarily been the cause in all. This view is supported by the great disproportion of men and women. The way in which specific disease acts is not certain. Probably the correct view is that through it a toxine is elaborated, which has a deleterious effect on the posterior columns, and the posterior nerve roots of the spinal cord. A "general nervous heredity," exposure to cold, over-exertion, and traumatism are supposed to be contributory causes.

Symptoms.—One of the characteristic features of this disease is that the symptoms cover a wide range, and different cases thus show considerable variation, in proportion as different symptoms are the more prominent. Of all the symptoms the "lightning" pains and loss of knee-jerk are the commonest, and the first to appear. They may be the only symptoms for many years.

It is usual to divide the ordinary cases of locomotor ataxy into three stages: 1. The pre-ataxic stage, in which there is no evident inco-ordination. 2. The ataxic stage, in which there is definite ataxy. 3. The paralytic stage, when walking and standing become practically impossible.

First or Pre-Ataxic Stage.—The three cardinal symptoms of this stage are: 1. Pains which are usually "lightning" in character. 2. Loss of knee-jerk. 3. Loss of pupil light-reflex. "Lightning" pains occur most frequently in the lower limbs, but often involve the trunk and arms, and occasionally the head. They come on suddenly, and may pass away in a few moments, generally, however, to recur, thus coming and going for several hours. They are of a severe, shooting, stabbing or darting character. They affect the muscles and bones, not the joints, and are often mistaken for "rheumatism" or "neuralgia." We less commonly have pains of longer duration and of an aching or boring character. Loss of knee-jerk is one of the earliest and most constant symptoms. This sign is nearly always present when we first see the patient, but occasionally there is merely diminution, and it may be inequality on the both sides. The loss of pupil light-reflex was first discovered by Argyll-Robertson, and is commonly known as "Argyll-Robertson pupil," or reflex iridoplegia. It is present in quite four-fifths of the cases, and is recognized by the fact that the pupil does not contract to light, while contraction during accommodation for near objects is retained. In this stage we sometimes get anesthesia of the feet and lower part of the legs, and occasionally some temporary paralysis of the ocular muscles, giving rise to ptosis, squinting, or diplopia.

Second or Ataxic Stage.—The most outstanding feature of this stage is the presence of muscular inco-ordination. It almost always develops gradually, though rarely it comes on acutely. It is first noted in the lower extremities, and in a large number of cases does not spread to the arms. One of its earliest manifestations is the fact that the patient notices that on washing himself there is some unsteadiness when he closes his eyes and bends forward over the basin. Another early manifestation is that he finds that he can not remain perfectly steady when the eyes are closed, and the feet together. Later on, the gait becomes changed. At first, there is slight difficulty in walking perfectly straight, especially in the dark, and in attempting to turn quickly. In order to overcome this difficulty the patient is in the habit of separating the legs a little, and keeping his eyes fixed on the ground before him. If he be examined at this stage a delicate test for the presence of inco-ordination of the lower limbs is Romberg's symptom—that is, the body sways when the feet are put together and the eyes closed. Later on, the feet are placed widely apart while walking, they are lifted abruptly and too high, and the heels brought down with force upon the ground. The aid of sticks may be necessary. The upper extremities are usually affected later than the legs, and occasionally may escape altogether. The patient finds a difficulty in performing delicate movements, such as buttoning his coat. If he be asked to close his eyes and to touch the tip of his nose with his forefinger, he goes wide of the mark.

In this stage the sensory disturbances become more pronounced. The "lightning" pains usually continue. A "girdle pain," that is, a painful sensation of constriction round the waist, may be present. Paræsthesia are by no means infrequent, the commonest form being a feeling as though the skin of the soles of the feet were covered by some soft substance. Anesthesia becomes more marked. It usually affects first the feet and the legs, spreading up to the knees, or even to the thighs and buttocks, and sometimes to the trunk. Occasionally, the trunk is most affected. When the upper extremities are involved the anesthesia begins in the fingers and creeps gradually upwards. All the forms of sensibility may be diminished or absent, or the tactile sense alone, or the sensibility to pain and thermal sense—the latter two rarely being separated. There is often delay of perception of pain, and of heat and cold. Loss of sexual power is common, and may be an early symptom. This stage is also characterized by paroxysmal visceral disturbances, called "crises." Of these, gastric crises are the most frequent, and

consist in paroxysms of intense pain in the epigastrium, passing through to the back, or extending from the groins up to the shoulders. The pain is usually accompanied by vomiting; or it may occur alone, without vomiting; or the vomiting may occur alone, without pain. The attack may last for hours or days. Rectal, vesical or urethral, renal, laryngeal, nasal, and bronchial crises are less common, but should be remembered. The functions of the bladder are frequently deranged. In the early stage this derangement consists in frequent micturition, and the necessity of passing water directly the desire is perceived. Later on, the stream is sluggish, or the urine dribbles away. Frequently the bladder is not entirely emptied and residual urine is a consequence, which may ultimately result in kidney disease. Occasionally, the patient suffers from complete retention. Finally, cystitis almost always supervenes. The sphincter ani is usually weakened, so that a loose stool can not be retained. There is rarely complete incontinence of feces. Vasomotor and trophic disturbances are fairly frequent, the commonest being "perforating ulcer" of the feet, and Charcot's disease.

Among the eye changes, reflex iridoplegia persists, contraction during accommodation for near objects is occasionally absent, the pupils are usually small, though rarely they are larger, and they are frequently unequal. Optic atrophy occurs in rather less than ten per cent of cases. It rarely affects one eye alone, though it is often more advanced in one eye than in the other; with its appearance the spinal symptoms generally become stationary. As a rule, the condition slowly progresses, and ends in complete or almost complete blindness. Occasionally, however, it ceases to make progress, and may even undergo slight improvement.

Paralysis of the external ocular muscles is common. Deafness occurs in some cases. Anosmia, unilateral atrophy of the tongue, and paresis or paralysis of the abductor muscles of the larynx are rare. Attacks of cerebral disturbance, resembling those which occur in general paralysis of the insane are extremely infrequent.

Third or Paralytic Stage.—In this stage the patient can not stand or walk, owing to the extreme inco-ordination, but there may be some real paralysis, as well.

Morbid Anatomy.—It is not necessary in a clinical article to dwell at length upon the morbid anatomy of the disease. It is sufficient to say that on *post-mortem* examination we usually find a degeneration of the nerve fibres, and a sclerosis of the neuroglia in the posterior columns of the cord, in the posterior nerve roots, and it may be in the peripheral nerves. There is also sometimes a similar change present in the basal ganglia of the brain, and some of the cranial nerves. It is not yet certain where the lesion of reflex iridoplegia is situated.

Diagnosis.—It has been truly said that we should mainly rely on physical signs for purposes of diagnosis, and this rule is well exemplified in the diagnosis of tabes dorsalis. Within the last month a middle-aged man presented himself at the out-patient department of the Westminster Hospital, complaining of severe pain in the epigastrium, with no special relation to meals, from which he had suffered for some months. Upon examining the various systems in the usual routine manner, I discovered that there was loss of the pupil light-reflex and the knee-jerk was absent. The patient was admitted to the wards of the hospital, and has since manifested all the features of gastric crises. This case serves as a good example to illustrate the extreme importance of making a routine and thorough examination of all the systems of the body in patients who come to consult us for any complaint whatsoever. Many cases of tabes dorsalis have been missed in patients who have complained of "rheumatism," for the simple reason that no physical examination of the nervous system was made. If this rule is adopted, then generally a diagnosis of locomotor ataxia is not difficult. It may often be made before muscular inco-ordination sets in. In this stage we rely upon the "lightning" pains, the loss of knee-jerk, and loss of pupil light-reflex. The first symptom is not so distinctive as the other two are, and the pains are frequently mistaken for rheumatic pains, especially as they are worse during bad weather. It is almost impossible to over-

rate the value of loss of knee-jerk. The knee-jerk is practically never absent in health and in the great majority of cases it is not present in tabes. When it is not abolished, there is either inequality of the two sides, or total loss on one side. In these cases we should not make a definite diagnosis without the presence of reflex iridoplegia, or of characteristic co-ordination, or both. It is true that we may get ataxia in cerebellar disease, and in some of these cases there is absence of knee-jerk, though it is generally increased. Here, however, the gait is of a staggering character, resembling that of a drunken man, with a tendency to fall to one particular side. Occipital headache is almost invariably present, optic neuritis is extremely common, there is no reflex iridoplegia, and no anesthesia. In ataxic paraplegia we also have ataxy, and when the posterior sclerosis predominates over the lateral, the knee-jerk *may* be abolished. This loss of knee-jerk, however, is rather rare, because of the fact that the posterior root-zones of the lumbar region are usually not completely destroyed. There are other diseases in which an ataxic gait may be found. For example, it may occur in some cases of disseminated sclerosis. These should present no difficulties, since in the majority of cases there is nystagmus, the knee-jerk is exaggerated, there is no Argyll-Robertson pupil, and an absence of "lightning" pains. Again, in syringo myelia we may occasionally have ataxy of the lower limbs, but here there are very characteristic and well-known sensory disturbances, namely, there is analgesia and loss of thermal sense, while tactile sensibility is retained. One of the most frequent diseases to be mistaken for tabes dorsalis is multiple neuritis; not the ordinary cases, but those cases where there is no distinct paralysis. The differential diagnosis here may be a matter of some difficulty. We are frequently helped by a history of alcohol, lead, arsenic, or diabetis; the symptoms come on more rapidly; the pains are not of a "lightning" character; there is frequently considerable muscular tenderness, there is no reflex iridoplegia, there is often reaction of degeneration present. Of all these differences the condition of the pupil light-reflex is the most conclusive. We should experience no difficulty in diagnosing Friedreich's ataxy from locomotor ataxy. The former is characteristically a family disease, it occurs early in life, there is usually no previous history of syphilis, there is an alteration in the speech, and other distinctive symptoms. The last disease we will consider in the differential diagnosis of tabes dorsalis is general paralysis of the insane. Of course, if the characteristic mental symptoms of the latter disease are present there is no difficulty in the matter. It is different, however, when we are dealing with a case of the spinal type of general paralysis of the insane, where there may be loss of knee-jerk, reflex iridoplegia, and presence of ataxy. Still, in nearly all these cases there is some evidence of impairment of the mind, such as loss of memory, mental inaptitude, and inability to follow the usual avocation. Tremulousness of the tongue, lips, and hands, and some affection of the speech are other guides. In the last stage of locomotor ataxy, when the patient is confined to bed, we should diagnose the condition from paraplegia. The history is sufficient for this purpose.

Prognosis.—Locomotor ataxy is certainly an incurable disease, but it is unusual for it to pursue a rapid course. As a matter of fact, the progress is usually slow, natural arrest is by no means infrequent, especially in the early stages, and death may not take place for even twenty or twenty-five years. When the disease does become stationary it often remains so for a very long time. On the other hand, periods of quiescence may alternate with others in which the symptoms increase rapidly. This increase is often caused by alcohol, or sexual excess.

The patient may suffer from "lightning" pains for many years without becoming ataxic. If the knee-jerk has become abolished, and the pupil light-reflex lost, they are very rarely regained. The pains, on the other hand, may disappear entirely. Their persistence does not necessarily mean that the disease is progressing. Neither do the presence of severe gastric crises. I remember a quarryman who had suffered from intense attacks of gastric crises for at least seven years, and yet there was scarcely any ataxy present.

Arrest is not so likely to occur when muscular inco-ordination has commenced. When it is thoroughly established it rarely, if ever, entirely disappears, though it may improve. The inco-ordination generally becomes slowly worse, and ultimately spreads to the arms. When optic atrophy supervenes, the spinal symptoms usually do not progress. From what has been said it may be inferred that the most trustworthy guide in the prognosis of tabes dorsalis is the rate of progress which we discover from personal observation. The commonest cause of death is kidney trouble. Other causes are bedsores and pyemia, laryngeal paralysis, and some inter-current disease, such as bronchitis, pneumonia, or pulmonary tuberculosis.

Treatment.—It is difficult to estimate the results of any treatment, for the simple reason that in a considerable proportion of cases and without any treatment, the progress of the disease is very slow, and in some cases even natural arrest occurs. We would, on first thoughts, expect that as there is such a close connection between tabes dorsalis and syphilis, and as syphilis is a disease which is so frequently curable, that great beneficial results would follow the administration of anti-syphilitic remedies. Such, however, is not the case. It is practically a unanimous experience that in the vast majority of cases anti-syphilitic drugs have very little result. We occasionally meet with cases where apparently there is marked benefit, but these are very rare, and, as a rule, they are cases where the syphilis is recent, and the symptoms have come on rapidly. Mercury is disappointing in its results, and some authorities believe it does harm. It is certainly contra-indicated in late cases, and should always only be given in very small doses. Iodide of potassium should be administered in all cases for some time. It is very important that the patient should abstain from any physical fatigue, should live a quiet and orderly life free from all nervous strain. Rest in bed for a few weeks is sometimes advisable at the commencement of our treatment, but afterwards it tends to increase the ataxy and the patient should be encouraged to indulge in a moderate amount of exercise, always stopping short of fatigue, however. Any excess in the use of tobacco, alcohol, and sexual intercourse are most strongly contra-indicated. As cold, damp and changeable weather, in many cases, aggravate the pains, the patient should spend the winter in some warm and equable climate, if he can afford it, and if this is not possible, he should wear flannel undercloth-ing, and not expose himself to inclement weather unless absolutely necessary. A sea voyage is only permitable in cases where the disease is already arrested. The patient should take a good supply of wholesome, nutritious food, and such tonics as iron, arsenic, and cod liver oil are sometimes advantageous. Several methods of treatment, which were formerly much in use, have been almost entirely given up. The method of stretching of the spinal cord by suspending the patient, is one. It probably was never beneficial, and in some cases it is positively dangerous. The administration of nitrate of silver has also been abandoned. If tried at all, it should be given in small doses, and for a period not longer than two months.

Hydropathic treatment was largely favored at one time. It may be tried as long as great caution is exercised, and the patient does not take hot baths. Erb believed that a temperature above 58.5° F., is injurious. Some success has been claimed for counter-irritation to the spine by means of the thermo-cautery in recent or rapidly-developed cases, or when the symptoms have a tendency to increase. Electrical treatment has been tried by Erb, a moderate number of cells being used for from three to five minutes once daily. A large electrode is placed over the sacrum and the other higher up, the upper electrode being moved slowly up and down the spine. The current should only gradually be raised to the maximum. A multitude of drugs have been tried and a varying degree of success claimed by their authors. Belladonna, arsenic, and chloride of aluminium seem to be the best. Calabar bean and phosphorus have also been used.

Treatment of Symptoms.—Ten grains of an antipyretic every hour for three or four doses will often cut short an attack. If the pains are less paroxysmal, the drug should be given regu-

larly three or four times a day. Cannabis indica in a quarter to half a grain doses; salicylate of soda, chloride of aluminium, colchicum with alkalies, and iodide of potassium may be tried. Faradic electricity applied to the skin with the wire brush, liniments, sinapisms, blisters, or a warm bath may suffice. It is only when all these remedies have been tried without success that we should resort to morphia. It should be given hypodermically, and in the first instance, in small doses, gradually increasing as necessary. For the paroxysmal disturbances, the same general lines of treatment should be adopted. Slight gastric crises may be relieved by the application of sinapisms to the epigastrium. For the severer attacks morphia is frequently necessary. The laryngeal spasms may be relieved by amyl nitrite, or nitroglycerin, and the local application of cocaine.

Muscular Inco-ordination.—We have been much helped in our treatment of this symptom by Fraenkel's discovery. The systematic movement of the limbs, which he elaborated, are undoubtedly of great value. These movements consist of a series of graduated muscular exercises, by which the muscles and nerves are educated. It is not my intention to describe them in this article—some authoritative account should be consulted. It is sufficient to say that the patient begins by practicing the simplest movements, such as flexion or extension of a joint, and accurately repeats the movements, and then gradually passing on to more complex ones, so that in time he is able to perform very elaborate exercises. The exercises should always stop short of producing fatigue. This plan of treatment gives the best results when the patient takes an intelligent interest in the endeavors. As a rule, it is contra-indicated when there is serious bladder or trophic disturbances. It should not be necessary to lay emphasis on the extreme importance of paying strict attention to the functions of the bladder. It is by no means uncommon to find that the patient has unsuspected slight retention of urine. Therefore, it is frequently well to pass a catheter, and if residual urine is found to be present, it should systematically be drawn off, under the most stringent aseptic precautions, and the bladder should be washed out every day or every other day. For the nocturnal passage of urine belladonna is often useful. Incontinence of urine is sometimes alleviated by the giving of nux vomica, or strychnine. Charcot claimed good results from ergot. Faradism to the skin of the abdomen or peritoneum has been tried when the vesical or rectal sphincters are weak. Faradism of the skin may also be used for the impairment of cutaneous sensibility.

In conclusion it may be stated that electrical treatment is indicated in the various paralyses which are sometimes found in this disease.

[Written for the MEDICAL BRIEF.]

The Pharmacological Action of Strychnine and Its Allies.

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(No. 1.)

Strychnine, the chemical formula of which is $C_{21} H_{22} N_2 O_2$, crystallizes out of alcoholic solution in colorless, four-sided, or octahedral right-rhombic prisms. They are slightly soluble in water (1 in 7000), more so in alcohol of specific gravity 0.863, especially when heated nearly to boiling point. The solution is odorless, intensely bitter, and leaves a characteristic metallic after-taste. The proportion of this alkaloid in nux vomica varies from 0.9 to 1.9 per cent. Strychnine is soluble without change of color in pure sulphuric acid. If a single crystal be thus dissolved on a white plate, and a drop of solution of some oxidizing substance (*e. g.*, bichromate of potash) be made to mingle at its edge with the dissolved strychnine, there is presented an unique play of colors, including blue, purple, crimson, and red-brown; this change occurs in a few seconds, and then the red-brown gradually

fades into a light red, which is persistent for some hours. It has been erroneously stated that other alkaloids answer to this test, but Dr. Guy has clearly proved that nothing but strychnine produces the particular sequence of color-changes above described.

There is a physiological test based on the sensitiveness of frogs: One one-thousandth of a grain in a drop of water applied to the dried skin will cause spasm in ten minutes; of the acetate of strychnine one two-thousandth injected will do the same, or even one-twenty thousandth applied to the skin when thoroughly dried. The physiological is more delicate than the chemical test, but it is given also by brucine.

Strychnine is a powerful and very stable base, which neutralizes the strongest acids, and precipitates metallic oxides from their solutions with formation of double salts; the nitrate, hydrochlorate and sulphate are crystalline, intensely bitter, and soluble in about fifty parts of water. Strychnine is about thirty times as active as brucine.

Brucine, $C_{23}H_{26}N_2O_4$, occurs in transparent four-sided prisms, or if the solution be quickly evaporated, in pearly scales resembling boracic acid, or they may form a cauliflower-like mass. They are soluble in one hundred and fifty parts of boiling, and in three hundred and twenty parts of cold water, the taste of the solution being strong and persistently bitter. Brucine and its salts are turned scarlet or blood-red by strong sulphuric acid. The proportion of brucine in nux vomica is variously stated to be 0.12 (Merck), 0.5 (Wittstein), and 1.01 (Mayer) per cent.

Igasurine was discovered by Desnoix in 1853. It is obtained in colorless, silky prisms, and is more soluble than strychnine or brucine, viz., in two hundred parts of cold and one hundred parts of hot water. Strong sulphuric acid turns it rose-red, the color changing to yellow and yellowish-green. Nitric acid gives a deep-red color. Igasurine has the bitter taste and poisonous properties of the other strychnous alkaloids; all its salts are crystallizable. Schutzenberger states that it is a compound body, yielding no fewer than nine bases, "all colorless, very bitter, and acting like strychnine."

Strychnine is absorbed comparatively slowly from the stomach, more quickly from the rectum, still more so from the bronchi and cellular tissue; it has been detected in the blood, the spinal cord, the pons Varolii, and especially in the medulla oblongata; also in a later case in the brain substance, though very little had been given. The salts, especially the hydrochlorate and the nitrate, are absorbed more rapidly than the alkaloid itself. Fatty or astringent substances taken at the same time delay absorption.

The amount found in the blood is so small as to suggest the hypothesis that the drug is partly decomposed in the circulation; but Kratter concludes that it is excreted unchanged in the urine. That enough circulates to produce all the characteristic symptoms is shown by a striking experiment of Vulpian's, in which the blood is conducted from one living dog to the vessels of another; soon after strychnine is injected into dog number one and toxic symptoms appear in dog number two, which latter dies before the former, the life of this being prolonged by artificial respiration.

Elimination takes place mainly by the urine and the saliva, and with ordinary medicinal doses is completed in two or three days. Being so slow, it follows that continuous doses may lead to unpleasant symptoms suddenly—after, for instance, a customary dose that has not been previously felt; hence it is important to omit the drug occasionally during a course of treatment. Elimination is quicker in children than in old persons; it begins within one hour and continues forty-eight hours, and this is even more rapid in the case of brucine. Meelzer and Salant have shown that if, in animals whose kidneys have been removed, strychnine be injected, cumulative symptoms do not occur, and the minimum fatal dose is not smaller than in normal animals. By what channel elimination is effected is not clear. The fear of accumulation in chronic renal diseases, it is held, may be set aside on these results.

Small doses, one-seventieth of a grain, stimulate the muscular coat of the intestinal tract to more active contraction, in-

crease appetite and regulate peristalsis. Larger doses may even cause diarrhea.

The primary action of strychnine on the digestive system in increasing appetite and improving digestion is in virtue of its being a bitter principle. The after effects on the muscular wall of the alimentary tract, in preventing constipation, are exerted through the nervous system after the drug has been absorbed into the blood. The tonic effects of strychnine are best obtained by small, repeated doses.

Experiments appear to show that large doses of strychnine paralyze the secretion of the pancreas.

Full medicinal doses, if continued, induce a state of heightened reflex irritability with general discomfort, restlessness and twitching of the muscles. The special senses are affected, so that bright light and loud sounds become painful, and in exceptional cases a simulation of alcoholic intoxication is produced. Such effects were formerly not uncommon when unwisely large doses were administered in the hope of curing paralysis.

Strychnine is a powerful tetanizer, especially in frogs. In conjunction with my friend, Dr. M. S. Pembrey of Guy's Hospital, London, I have made a series of observations illustrating the fact. Many of these experiments are given in detail in our book on "The Physiological Action of Drugs," a work intended as an introduction to practical pharmacology. The following is a typical experiment:

Under the skin of a brainless frog are injected ten to fifteen minims of a saturated solution of strychnine in normal tap-water saline. In two or three minutes it will be observed that the frog can not readily draw up its hind legs after a jump, and soon the reflex excitability of

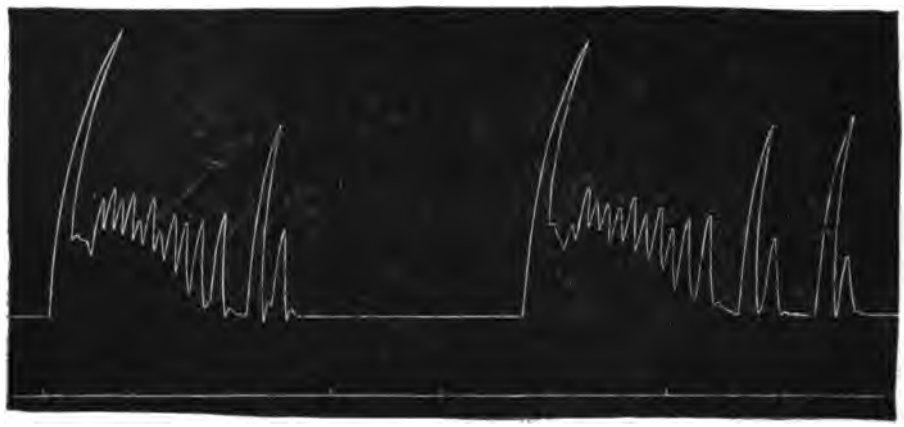

CHART I.

the spinal cord is so much increased that a slight touch or puff of wind upon the skin brings about a general spasm of the muscles. Convulsions quickly follow, and the body becomes rigid and rests on the mouth and toes in a position known as *emprosthotonus*. This attitude is due to the different strength of the various muscles; all are thrown into contraction, but the stronger overcome the weaker. The muscles are somewhat relaxed after the convulsions, but are again sent into tetanus by the slightest stimulus applied to the skin. These *tonic* contractions are followed by prolonged twitches or *clonus*. The spinal cord soon loses its excitability and the frog lies in this condition for several hours; if, however, it be kept in shallow water and covered by a bell-jar, the excitability will return and recovery from the action of the drug occur in less than twelve hours. This is due to the excretion of the strychnine by the kidneys. The urine of a frog poisoned by strychnine will produce the characteristic convulsions when it is injected into another frog. If, during the stage of convulsion, a probe be pushed down the vertebral canal, so as to destroy the spinal cord, the convulsions cease at once, showing that the drug acts upon the ganglion cells and their dendrites. The death of a

frog from a larger dose is quickly followed by a well-marked *rigor mortis.*

The following experiment serves to demonstrate that the action of the drug is on the spinal cord:

The cerebral hemispheres of a frog are destroyed and then the gastrocnemius muscle is prepared. A strong ligature is placed under the gastrocnemius and tightly tied round the upper portion of the tibio-fibula and the remaining muscles; the leg is then removed below the ligature; this method of precaution prevents hemorrhage. A pin is placed through the lower extremity of the femur and is pushed firmly into the cork of the myograph; a piece of moist flannel is then pinned down over the trunk to prevent the contractions of the muscles of the trunk from disturbing the lever connected with the gastrocnemius muscle.

A dose of strychnine similar to that used in the last experiment is injected under the skin of the back. Twitches and convulsions soon begin, and if a signal marking seconds be simultaneously recorded the twitches of the tetanus can be observed to number about eight a second. This is a measure of the rate of discharge of impulses from the nerve cells of the spinal cord. The stage of incomplete *tetanus* is followed by one of *clonus.* The curves in Chart I. illustrate the tetanus, the time is marked in seconds.

It will be noted that the curves in Chart II. of clonus is similar to that produced by hydrastine, one of the alkaloids obtained from *Hydrastis canadensis,* the golden seal.

In man in toxic doses of half a grain, sometimes less, strychnine produces powerful and characteristic tetanic convulsions. The first symptoms are developed in from a few minutes to an hour after the administration, with a sudden sense of suffocation and dyspnea. The head and limbs begin to jerk in a shuddering manner, and the latter are suddenly stretched out rigidly, the hands clenched, the head bent backwards, and at last the whole body is stiffly arched, so as to rest upon the head and the heels. The soles of the feet are arched, the belly is hard and tense, the chest is fixed, and the breathing nearly arrested. In the height of the spasm, the face looks dusky and congested, and the eyeballs stand out strongly; the jaw-muscles are also affected with spasm, and the throat is dry, with a sense of choking. It is worthy of notice that the jaw-muscles are never so soon or so powerfully affected as in tetanus. The patient often expresses a fear of impending death, but the intellect remains unclouded. After the paroxysm has lasted a minute or two, there is usually a relaxation, during which the patient suffers only from soreness of the muscles, but before long he experiences

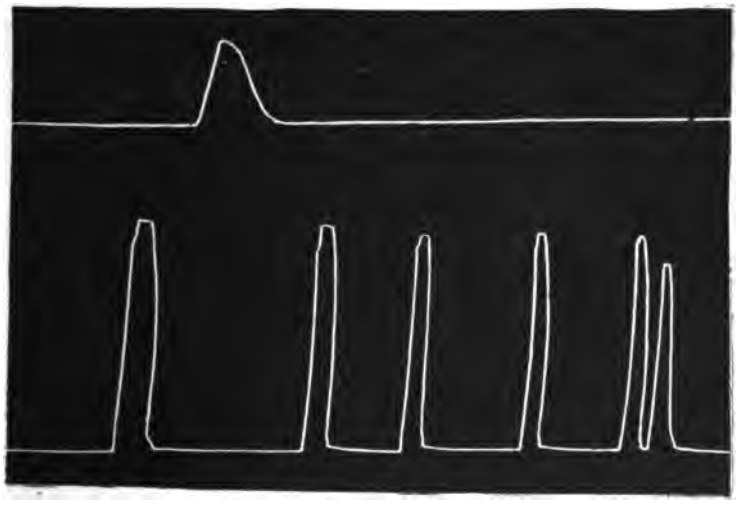

CHART II.

sensations which warn him that the fit is returning, and cries out for someone to hold him or rub his limbs. After one or two, or a succession of paroxysms, respiration stops in the middle of a fit, and the heart soon after ceases to beat. Death may occur within five minutes, and is seldom delayed more than five hours. The smallest dose which has produced a fatal result is of nux vomica extract three grains, of strychnine one-half grain, but several persons have recovered after swallowing even larger quantities, the paroxysms gradually becoming less violent, and the intervals longer. On the other hand one-third of a grain of the alkaloid may imperil life. Chronic poisoning from continued medicinal doses has cumulated in a sudden attack like apoplexy.

Tamassia records a rise of temperature in strychnine poisoning as contrasted with a fall under arsenic, corrosive sublimate and phosphorus. After death there are no characteristic lesions generally recognized, but the occurrence of *rigor mortis* is usually rapid, almost immediate.

The action of strychnine on different animals varies in degree, man apparently being one of the most sensitive to it. The monkey is very little so, and birds less than rabbits. Puppies newly born are said to be less susceptible to its action than those a little older, the explanation given being that their nervous system is not so fully developed. Wintzenreid found with brucine that different species of frogs were differently affected; on the *Rana esculenta* it acted like curare, on the *R. temporaria*, and on warm-blooded animals, it acted much like strychnine. It is worth noticing that in this latter alkaloid the substitution of a molecule of ethyl for one of hydrogen converts it into a paralyzer allied to curare.

We must next consider the mode of action of strychnine. Magendie taught that it acted on the nerve centers as a direct irritant, like galvanism or other mechanical stimulus, and that ultimately paralysis followed over-stimulation; but the view advocated by M. Hall, Brown-Séquard, Vulpian and others, supported as it is by many experiments on the lower animals, is the one now generally adopted, viz., that strychnine acts only on the grey substance of the spinal cord, exalting its reflex power to such a degree that comparatively slight stimuli, intrinsic or extrinsic, provoke convulsive spasm; if anesthesia (general or local) be induced, the spasm is arrested, though on direct touching of the cord it recurs, showing that the anesthetic only abolishes reflex action. Its main effect is on the spinal cord, the vital nerve centers of the medulla have their reflex excitability increased; the only purely cerebral effect is that it increases the activity of the special senses, but it is not yet certain whether this is dué to stimulation of the higher centers of the brain or the peripheral nerve mechanism in the organs of special sense. It does not increase capacity for intellectual work, nor relieve fatigue induced by the same.

Rosbach and Nothnagel agree in stating that the drug acts on the whole spinal cord, especially the cells of the grey substance and of the vaso-motor and respiratory centers, as well as those concerned with reflex action.

Spitza, in a prize essay of the American Neurological Association, thus sums up his knowledge on this subject: (1) Strychnine acts on the whole of the grey substance in the same manner, and affects both its sensory and motor elements. (2) The white substance and the peripheral nerves act only as conductors. (3) Strychnine has no local action on nerves or muscles, except on the peripheral extremity of organs of special sense. (4) It causes tonic spasm in all vertebrate animals—in the higher classes clonic spasm also. (5) Its maximum influence is intracranial (medulla), and becomes less, progressively, in the lower portions of the cord. (6) It augments reflex excitability, or as put by Cushny, "removes resistance to the passage of impressions along the reflex arc;" but all the spasms are not due to this only, some depend upon a direct irritation of motor cells. (7) The lower animals it kills by nerve exhaustion, the higher by asphyxia, with venous congestion of the nervous system. (8) After administration it is found in all organs and tissues of the body—more is found in the grey than in the white substance; *post-mortem* lesions in toxic cases are due to secondary effects of the drug.

[Written for the MEDICAL BRIEF.]

Structure, Constituents, Etc., of Plants.

BY JOHN URI LLOYD, PHAR. M.,
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In reply to inquiries regarding plants, their structure, constituents, etc., I will say:

To begin with, I do not look upon a vegetable structure in the manner that so many of my friends appear to consider it. I view it as an intricate structure, in which each integral part is related to, and united with, the associated constituents, be they solid or liquid. It is an intricate labyrinth of complexities which, taken together, constitute the thing as a whole. This structure in its entirety we call the plant, or drug.

In the course of the life of the drug there is no doubt that, owing to the structural alterations that occur, deposits of extraneous substances are often made, which may be likened to abnormal deposits that are sometimes found in animal structures, and which may be viewed as extraneous materials. Among such may be mentioned the oxalate of calcium deposits, the silicate and phosphatic deposits, possibly, also, some of the fats, the alkaloidal deposits and such, that are developed in certain parts of certain drugs and plants. These may often be excluded from the integral life structure, as may also a parasitic growth. Again, such bodies may have a wise and useful purpose in the life function of the plant, or as agents to protect its existence. For example, the bitterness of the delicate rhizome of the golden seal, the acridity of that most delicate structure, sanguinaria, the sourness of the fragile species of oxalis, the poisonous qualities of other plants, unquestionably protect these plants against the attacks of insects that otherwise would soon eradicate them. Such formations seem, almost as by design, somewhat similar to the offensive secretions that enable certain insects to exist, by means of their offensiveness, and to even protect such creatures as the skunk against their more powerful neighbors.

But to return to the plant subject. The intricate structure that we call the drug is in a form too cumbersome to be used in its entirety. It is largely made up of woody matter, of fats that are inert, of coloring matters that have no therapeutic value, and of extraneous substances that may be excluded without great injury to the therapeutically valuable structure which, as a rule, seems to be soluble as a whole, in certain appropriate menstruums.

In the early day, an attempt was made to thus administer the vegetable drugs in the form of decoctions and infusions, which dissolved parts of the juices, carrying more or less of the medicinal substances found in the drug, which could then be given with a fair degree of certainty. But such preparations were open to the objection of fermentation, of decomposition by fungus growth, of carrying large quantities of gum and other extractive matter, that hindered the action of the remedial constituents. Then came the method of distillation in steam, by which the drug structure was broken up, and certain volatile constituents recovered by condensation. This was the day of medicated distilled waters, which, a few hundreds of years ago, were made in a most complicated manner, and constituted great lists in the Pharmacopœias of Europe.

Came now (or preceding) the discovery that spirit of wine would abstract from certain drugs many constituents that water would not dissolve, and that it would preserve these structural solutions in a way that water could not accomplish. As these solutions were usually deeply colored, they were called "tinctures,' the word *tincture* referring to the color of the preparation. This term tincture remains in vogue at the present day, referring to an alcoholic preparation, regardless of its color, made of a drug, although, be it said, the "tinctures," as a rule, are deeply colored.

In the Pharmacopœias of a couple of hundred years ago, tinctures were most artfully and wonderfully complicated. Ingredients, running into the hundreds, even, were employed in making some of these complicated cure-alls. It was a day of tincture faddism, just as we have had the day of fads in medicated waters, and other galenical preparations.

Came now the "quackery" of those who found herein opportunities to prey upon the gullibility of the people. Came also the so-called "quackery" of those who believed most enthusiastically in the statements they made to the people. Then, as now, it was very difficult to differentiate between the men overly-enthusiastic in behalf of a fad, and the artful creatures who took advantage of their opportunity to fleece the people. Arose then such familiar "compound tinctures" as Compound Tincture of Senna, or Elixir Salutis; Camphorated Tincture of Opium, or Elixir Paregoricum; Compound Tincture of Aloes or Elixir Proprietatis; Tincture of Rhubarb and Aloes, or Elixir Sacrum. Marvelous were the claims made in behalf of these compounds, which were called *elixirs*, in the centuries we have mentioned.

At last, about one hundred years ago, appeared the experiment of Sertürner, who discovered morphine. It was a wonderfully-active substance which partook of the nature of the alkalies. It seemed to parallel opium, and to give in a concentrated form the value of opium. It was called an *alkaloid*, because it resembled an alkali in its properties of combining with acids to form salts. A new era now opened up. Chemistry became more important in plant medicine; the supposition, at least the hope, being that as morphine seemed to parallel opium, every plant could be decomposed by chemical means, and a something obtained therefrom to parallel the value of the whole plant, or its liquid representatives in medicine. This theory was quickened by the discovery of quinine in Jesuit Bark or cinchona, and soon thereafter, by the discovery of alkaloids in a few other important drugs. About this date arose the American schools of medicine, known as the Eclectic and the Thomsonian. Their medicinal preparations were mainly vegetable. They believed in a vegetable *materia medica*. Naturally, the attention of many enthusiastic scholars was called to the alkaloidal theory that had been started with the discovery of morphine. What a marvelous help it would be to suffering humanity could an alkaloid be picked out of each American drug, to carry the therapeutic qualities of the drug structure as a whole, to replace the liquid preparations that to that day had prevailed. Just now (1835) Professor John King stumbled upon "podophyllin." Its discovery was an accident. He called it "resin of podophyllum," and he thus correctly named it. Close following, by investigation, he discovered "resin of cimicifuga," and the "oleo-resin of iris versicolor." These discoveries, together with the known alkaloids, strengthened the theory that each medicinal plant possessed a *something* that could be separated and used in very small amounts, to represent the plant itself. Came now the fad of the so-called Eclectic alkaloids, resins and glucosides, among which, however, only a very few were found to be alkaloids. This discovery that the alkaloids were so few in number was the first blow struck at the theory of the so-called Eclectic alkaloidal faddist. Fifty years ago, in fact, leaders of the Eclectic school perceived that of all the plants they used less than a meager half dozen carried any alkaloidal qualities whatever. But the faddist was equal to the emergency. He must classify the various substances, obtained often by simply drying extracts, which, to make them dry, were necessarily often mixed with such extraneous substances as magnesium carbonate, milk sugar, and alumina.* Then it was that the terms *resinoid* and *concentration* were created, to apply to the powders that, misknown as "Eclectic," were called by many ignorant people, *alkaloids*. It was a day of alkaloidal fallacy, for the substances in the list were neither alkaloids, nor individual representatives of the plants from which they claimed to be derived. It was a day in which the Eclectic school in medicine came near being wrecked, and in which, had not Dr. John King, and a few other patriots, uprisen, it would have been wrecked. Among the entire list, as I look at the matter, stand so few substances that have an individuality of their own, as to make it ironical to speak of the list as being in anywise a collection of definite therapeutical educts. Among the few that carry the therapeutic energies, even to a moderate degree, of the drugs after which

*The personal, even vicious discussions in the Eclectic journals of that day, concerning these substances seem to have been forgotten.

they are named, are only a comparatively limited number, *a very limited number*, of alkaloids. The entire North American *vegetable materia medica* at the present time furnishes only two plants that yield alkaloids having any general use whatever, as alkaloids, in medicine. These two are sanguinaria and hydrastis. There are other alkaloidal plants, it is true. There are other plants in which the chemist can identify alkaloidal qualities. This, also, is true. But the alkaloidal feature of such is of no importance whatever, in a therapeutic sense. Excluding quinine, morphine, atropine, and a dozen or so others, the same applies to the total world's vegetable remedies. Of the vast majority of vegetable structures, in my opinion, no isolated product comprehends the full qualities of any drug, and hence, in the majority, liquid pharmaceutical preparations stand supreme today as they have in the past.

It has been my duty to be concerned in a business establishment that has required from me the most exacting care and study of the above subjects. I consider the entire line of so-called alkaloids, glucosides and resins to be among the most profitable commercial products that can be manufactured. But this, together with the fact that opportunities second to none in their manufacture on a large scale lie in my direction, has never prevented me from expressing my opinion of this subject, or of upholding the cause of the pharmacist who maintains the integrity of his preparations.

To sum it all up, the course of medicine from the beginning of its struggle in the far-distant past to the present date, in which, just now, the coal-tar products and animal extracts, and the toxins and antitoxins are so conspicuous, has been a series of faddisms. Each fad has disappeared, to leave a something of utility, which today stands as a useful therapeutic agent in the *materia medica* of the world. The elixir fad, the tincture fad, the medicated distilled water fad, the chemical fad of Glauber and such as he, the alkaloidal and concentration fad of early Eclecticism, the fluid extract fad of regular medicine in the past forty years, the present toxin and anti-toxin, animal extract and synthetic coal-tar product fads, are related to each other in that they all are fads, and each will leave, probably, a few useful products to mark the enthusiasms of their days.

[Written for the MEDICAL BRIEF.]

Myocarditis in Children.

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Most practitioners fail to recognize myocarditis because, as compared with endo- and pericarditis, its signs are less patent and obvious. The profession has been educated up to watching for endocarditis in cases of rheumatism, and they also watch for pericarditis in such cases, or as complicating pleurisy. But they frequently neglect to interrogate the heart muscle, which is most reprehensible, for it is almost self-evident in any disease in which toxines circulate in the blood, that some of the evil effects will be felt by the heart muscle wall. In diphtheria, it is by no means infrequent that heart symptoms of the utmost gravity and severity, due to a myocardial degeneration, arise very suddenly and unexpectedly, and yet there must have been changes in the muscle wall or in the innervation, before such alarming symptoms of heart failure could arise.

Rolleston has called attention to the vomiting, restlessness, irregularity of the pulse, and change in the heart sounds, which point to a threatened paralysis of the heart.

He has commented, further, upon the marked fluctuations in the symptoms due to the heart. "It is very common to meet with some degree of paresis, *e. g.*, outward displacement of the apex beat, increase of cardiac dullness, impairment of the first sound, embryocardia, or gallop rhythm, at one visit, and at the next to find the heart apparently normal.

"So, too, with the pulse; marked inequality of the two radials, complete absence of one, the loss of palmar recurrence, and sometimes complete radial asphygmia, may be met with in the morning, and in the evening the pulses are

equal and fairly strong. These temporary ameliorations, which are independent of medicinal treatment, so far from being a good omen are characteristic of fatal cardiac paralysis." (Rolleston, Pediatrics, December, 1905.)

In typhoid fever, influenza, pneumonia, and other serious diseases, the condition of the heart is the crucial point, and upon the exact knowledge of its integrity will depend the successful outcome of the case.

Lees has shown that dilatation of the heart occurs in various diseases, and is due to inflammation or other lesion of the myocardium. This point is of the greatest assistance in treating all diseases in which bacteria or their toxines, or the natural loss of strength, as in typhoid fever, are likely to tell upon the heart's function. He has laid particular stress upon this dilatation occurring in rheumatism, as the forerunner of endocardial mischief. It seems rational to suppose that any toxine capable of attacking the fibrous layers of the endocardium would have some effect also upon the myocardial wall. But myocardial involvement may and does occur in many other diseases, and this sign is of the utmost help in anticipating trouble.

The recognition of this dilatation is less difficult in children than in adults, as percussion more accurately outlines the area of the heart. It is the area of deep cardiac dullness which is so important to be determined accurately, and this is more easy in children on account of the relatively larger space which the heart occupies in the chest, and the thinness of the chest wall.

The resistance to the finger, used as a plexímeter, is of great service in deep percussion in outlining the heart. The location of the apex beat is also perceptible to sight or to palpation. All these factors enter into the diagnosis, which becomes easier with greater experience.

The quality of the pulse is important. Here the tactus eruditus enables the skilled physician to recognize derangements in the regular action of the muscle wall of the heart; a very frequent pulse is usually an evidence of cardiac asthenia, more noticeable or, at least, more noticed, after typhoid fever. A rapid pulse after diphtheria is very alarming, and shows that the toxines are producing some degeneration or weakening of the muscle fibers of the heart. The necessity of watching the heart closely under these circumstances is sufficiently evident. Rising to an upright posture may result in immediate collapse and death.

A very slow heart-beat may be equally dangerous and especially because one usually confounds a slow beat with a strong beat. It is a very slow pulse, occurring when we should not naturally expect it, that constitutes the danger signal.

Irregularity in the heart's action may be observed, either in the rhythm or in the volume. The regular arrhythmia, where a beat is lost every five or ten beats of the heart, is met with most frequently in the aged, and only very rarely in childhood. I have observed it in acute gastric disorders of even very young children. Intermittence of the heart's action is quickly noticed, and also that form of irregularity in which the heart's action is accelerated or slowed from moment to moment. But irregularities in the volume of the pulse is not so easily recognized, nor is its significance fully appreciated, unless one remembers its association with abnormal conditions in the heart muscle.

Other symptoms will be pain and, perhaps, some palpitation, slight dyspnea on sitting up, and a quickened pulse of low tension. The first sound is shortened as if the heart jumped at the blood in the ventricle.

The treatment should be absolute rest in bed until the cardiac symptoms have ameliorated. This is difficult to secure in children, unless the parents have more than the usual sense about such matters. Rest secures more relief to an over-worked heart than any other form of medication. When convalescence is beginning, the use of recognized heart tonics, in small doses, is valuable, but anything like an exaggerated employment of digitalis, or any of its congeners, is to be deprecated as being likely to do more harm than good. The return to the ordinary life and play and games of childhood should be gradual and under the careful guidance of the experienced observer.

Hast Building, 713 Fourth Avenue.

[Written for the MEDICAL BRIEF.]

Inversion of the Uterus.

BY L. H. DUNNING, M. D.,

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While it is within the province of the gynecologist to deal with chronic inversion of the uterus, rather than the acute, yet in order to understand anything about the former we must deal somewhat with the subject of the latter condition.

Inversion of the uterus is a partial or complete turning of the uterus wrong side out, and may be considered under three headings.

1. The first form is one in which we have a turning in of the horn or any other part of the wall of the uterus into the uterine cavity.

2. In the second form the uterus is completely inverted, but rests within the vagina.

3. In this form we have a complete inversion of the uterus, with the fundus resting lower than the cervix, protruding from the vagina and resting upon the vulva.

In this form we have not only the inversion of the uterus, but some inversion of the vagina, as well, so that the inverted organ, instead of resting within the vagina, protrudes and rests outside upon the vulva.

The two factors requisite for the production of inversion of the uterus are, (1) atrophic degeneration or loss of tonicity of the walls of the uterus, and (2) pressure from above or traction applied from below. Inversion may occur where we have a large pedunculated submucous fibroid tumor of the uterus, attached high in the cavity and gradually pulling down the wall of the uterus and dragging it inward. To this traction force there may be added contraction of the uterine walls, so that the efforts of the uterus at expulsion of the tumor may cause a complete inversion. Such cases are rare, and yet several of them have been reported.

Another class of cases is that following traction upon the cord. I remember one case of this sort which made a very deep impression upon my mind. I was hastily called to see a patient by her attending physician. As I entered the room the woman was gasping and died in a few minutes. The attending physician had made gentle traction on the cord, when suddenly the placenta and uterus descended in the line of traction and all came into the world. A complete inversion of the uterus had occurred.

Inversion may also occur when no traction whatever is made. It has followed the irregular application of pressure upon the uterus by the Credé method. There is atrophy, perhaps, in some part of the walls of the uterus, loss of tonicity, and irregular and forcible pressure is made with the thumb and finger upon the horn or some other part of the uterus; contraction of the uterine walls appearing, the pressure may be continued in an irregular manner. The whole uterine mass may descend in the pelvis, giving the impression that the placenta is extruding, while the fact is the uterus has been inverted and in a moment or two appears in the vagina.

In cases of acute inversion it is highly essential to restore the uterus to its normal position without delay, for it has been demonstrated that if the uterus be allowed to remain inverted for twelve hours, it may be as difficult to return to its former position as though it had been there for months. Therefore, the restoration should be made immediately, and, as a rule, this is easily done. I remember a case in this city, in the practice of Dr. Jamison. He was attending a confinement case and was unfortunate enough to have this condition occur. I was called in and on reaching the door found the Doctor covered with blood and looking as though he had been indulging in some sort of athletics where he had been at a disadvantage. But he had succeeded in reducing the inversion. He reported that he had been seated at the bedside of the patient, who complained of severe pain. She suddenly became faint and appeared to be dying. The doctor placed his hand over her abdomen and noted the absence of the uterus; pulling back the bed clothes he found the inverted uterus in a pool of blood. He immediately took hold of the organ, and pushed it upward, and finally clasped the whole organ in his hands, and

made systematic pressure from below upwards, when suddenly it went up with a snap, and the organ was restored.

In chronic inversion great difficulties are experienced in restoring the organ, by reason of the contraction of the cervical canal and the os. The os becomes rigid about the upper portion of the tumor, and it is almost impossible to carry the fundus through it unless the os be dilated in some artificial manner.

The most important symptoms of chronic inversion of the uterus are excessive hemorrhage, irregular bleedings from the uterus, discharge of serous fluid from the vagina, presence of backache, bearing-down pains and vesical disturbances. This group of symptoms being complained of, physical examination is made to determine the lesion giving rise to the symptoms, when there will be found inversion of the uterus, with the organ resting in the vagina or upon the vulva. The encountered mass may be mistaken for a fibroid tumor, as in submucous fibroid tumor you have practically the same symptoms, and you must differentiate between the two. The best method is to endeavor by a digital examination to find the os above the mass. If so found, then pass a sound up the cervical canal to determine whether there is the presence of a tumor in the vagina, which is not continuous with the cervical canal, covered with mucous membrane, larger below than above, with the absence of the uterus in the pelvis, as evidenced by combined examination. If the mass were a fibroid tumor you would find the uterus in the pelvis, and you would be able to palpate the fundus above the pubes.

How shall we replace the uterus? In three ways. First, by taxis. This is to so manipulate the inverted organ that it will be restored, and up to a few years ago that was about the only method in vogue. One of the approved mehods is that of Emmet, which consists in putting the whole hand into the vagina and with the thumb and finger upon either side of the cervix, pulling it sidewise, with the hope that it might pull open the os, while with the palm of the hand the fundus is pushed upward and through it.

Another method is that of Nœggerath's, which consists in beginning at either horn of the uterus with the thumb and two or three fingers, the thumb and fingers pressing upward, while counter pressure is made from above through the abdominal wall by the assistant, who endeavors to thrust his fingers into the cervical canal, and by making lateral traction assist in dilating it, so the fundus may pass through it.

The third method is that described by Hirst, as follows: Making pressure with the finger tips of one hand against the lateral wall of the lower uterine segment in a direction forward and upward, while an assistant with both hands presses upon the cervical ring from above and endeavors to dilate it by traction in opposed directions tnrough the abdominal walls. By this method Hirst has reduced five cases of inversion of the uterus.

Another method of treatment of the chronically-inverted uterus is by long-continued pressure. The pressure may be made by the colpeurynter, filled with water or air, introduced into the vagina, and made to retain its position, if necessary, by a compress supported by a T bandage. This method has but few advocates at present, as when successful it requires the application of the pressure for one or two weeks. It is a very painful and dangerous method. The pressure needs to be relaxed for a time every few hours.

White has devised an instrument with which he was successful in reducing an inverted uterus which has resisted other means. The cup-shaped extremity is placed upon the lower segment of the uterus. The other extremity, which terminates in a strong spring coil, is made to rest upon the breast of the operator as he makes steady and forcible pressure from below upward and forward. Both of the methods of reduction by long-continued pressure have given way largely to the operative method. Several such methods have been brought forward. The one which seems to have met with the most ready success is that of discission of the cervix, followed by taxis.

The cervix is cut in two posteriorally in the median line. Reduction is then effected by taxis, after one of the methods already described. The wound in the cervix is then closed by chromacized catgut.

If the reduction of the uterus can not otherwise be accomplished the incision through the cervix may be carried onward to and through the body of the uterus. After reduction, in order to close the incision through the uterine walls, it may be necessary to do a posterior colpotomy in order to fully bring the incised uterus into a position where the stitches may be placed in the uterine walls. Two tiers of stitches will be required, one of catgut uniting the muscular walls, and another closing the serous coat.

Hysterectomy is done only as the last resort in cases of inversion of the uterus.

Willoughby Building.

[Written for the MEDICAL BRIEF.]

Is Stimulation by Suggestion in Pneumonia Possible?

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Many stimulants have been advanced by various authors and writers for the treatment of crises of pneumonia. It has been an observation that the increase in mortality in pneumonia in the adult over that of childhood is due to the fact that with patients who have arrived at the years of understanding, to pronounce their disease pneumonia is to sound their death-knell. So much is the disease dreaded by those of mature years that they immediately give up any idea of recovery, and make no resistance to the inroads of the disease, when they become aware of its nature. With children, who do not understand the severity of the disease, their minds are alert to combat its progress. This being the fact, medicines have a better effect on the child, especially when the seventh or ninth-day crisis appears. However, even in these cases it sometimes happens that all measures seem to fail, and it is on account of this failure that the use of suggestion was employed in the case of a boy patient nine years old.

This little patient, when admitted to the hospital, had been sick three days, and at the time of his first examination his right lung was nearly completely consolidated. His temperature was 103° F., breathing rapid, cough dry, with no expectoration. The usual treatment was instituted, cotton jacket about the chest and the internal administration of ferrum phos. and bryonia. This was continued up to the ninth day, the fever continuing higher each evening until the temperature was 106° F. at seven o'clock of that day. At ten o'clock the temperature had suddenly dropped to 93.6° F., per mouth (as taken by three thermometers), the axillary temperature being 94° F. The patient was sweating profusely; cold and clammy. Pulse had declined from one hundred and twenty to sixty. The use of whisky, and strychnine hypodermically, resulted in absolutely no change. The extremities became cold, and death was predicted in a few hours.

When he was admitted to the hospital the boy gave a history that he was a poor newsboy, and was the main support of a sick mother. It occurred to us that he might be bribed, so to speak, to live, or suggestion used, whichever it may be termed. Anyhow, a quarter was held up before his eyes and he was told that if he would make an effort to rally he should have the quarter as soon as he was better. This produced the first appearance of the return to vitality, for his eyes brightened, and he whispered something which, on account of his weakness, could not be understood. The pulse increased about five beats per minute from this stimulation. Temperature continued the same throughout the night. The use of hot applications kept the extremities warm, and the next morning he demanded his quarter, which he clung to until completely recovered. The temperature continued stationary for four days, otherwise he made an uneventful and rapid recovery.

This case is reported in the hope that physicians will not inform their patients of the nature of the disease in cases of pneumonia, but always inform their family, under the promise of absolute secrecy, as far as the patient is concerned. To inform the patient that his trouble is pneumonia produces the same psychological effect as for the patient to be told he has cholera.

314 South Jefferson Avenue.

[Written for the MEDICAL BRIEF.]

Results of Excision in Tuberculosis of the Knee Joint, with Report of Cases.

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The object of this short paper is to place before you in as few words as possible the results of my very limited experience in cases of resection of the knee-joint for tuberculosis. I take it that the statistics of the works of others are accessible to all, and I am at present concerned only with what I have been able to learn personally from cases under my own care.

I should preface this report by saying that the cases referred to have all exemplified an advanced stage of tuberculous disease, a stage where osseous disintegration was well-marked and joint invasion was more or less complete.

In one or two cases which I at first believed belonged to the so-called synovial type of the disease, subsequent developments convinced me that bone lesions were already far advanced at the time of exploration. I feel more and more convinced that the so-called synovial type of the disease is a misnomer. That where synovial involvement is present there has been a pre-existing, if not readily demonstrable bone focus. I am also fully convinced that in adults, at least, that, once decided upon, the advisability of operating no half-way measures, such as arthrectomy or erosion, should be chosen, but complete resection or excision of the joint undertaken.

Regret is sure to follow anything less radical than complete resection.

It is, of course, understood that resection is only advocated in adults, with the exception of certain extreme cases in children, under the following circumstances:

1. When the disease has been under observation and treatment for some time, including fixation, extension, and the use of Bier's congestive treatment.

a *b* *c*

CASE II.

Tubercular Knee (excision), serial sections from below upward.

a. Lower end of femur. *b*. The visible cut surfaces of *a* and *b* belong together. *c*. The upper fragment removed, *b* is lifted up and placed on top of *c* for reconstruction.

2. When the case has been neglected and it is evident that conservative treatment will be of no avail.

3. When the skiagram or X-ray shows extensive osseous change, and other evidence is present of rapidly progressive disease.

4. Where the urgency of the patient's need to get back to work to support a family calls for medical treatment with a view to prompt results.

5. Where extreme pain, due to joint erosion, threatens to exhaust the patient.

6. When discharging sinuses are already present, although their absence is no contraindication.

It must be borne in mind that many of these cases present tuberculous lesions elsewhere. These should be no contra-indication to operation, inasmuch as the results of operation only conduce to the patient's well being, and the operation does not appear to have any untoward influence on the patient's general condition.

Shock, as the result of surgical intervention, has, in my own experience, been unknown.

Pain after operation is, as a rule, absent or trifling. Recovery is usually prompt and uneventful. Bony union is very rapid when the bones are placed in correct apposition.

Recurrences of the disease have not occurred in these patients whom I have had under observation for periods varying from one to three years.

In one case (9) death occurred on the tenth day after the operation. In this case repair had gone on to an astonishing degree at the site of excision. The patient was a morphine habitue, developed active delirium and died in convulsions. Autopsy showed pulmonary tuberculosis and chronic interstitial nephritis.

In two cases (5 and 6) death occured three and seven months, respectively, after operation.

In case 5, aged thirty-two, amputation was done with subsequent gangrene of the flaps. Autopsy showed pulmonary tuberculosis, chronic interstitial nephritis, chronic cystitis, and cirrhosis of the liver.

In case 6 secondary amputation was done on the first leg operated on. Resection was subsequently done by Dr. Freiberg on the other knee. Patient died ultimately of tuberculous meningitis. Both lungs were extensively involved.

Case 1.—L. F., white, female, married, aged thirty-five, admitted July 13, 1901. Onset of disease two years ago. Pain and swelling in right knee, more marked during the day, going down at night; painful on exertion. This lasted one and one-half years, the joint at the end of that time being almost stiff. On admission right knee was swollen, semi-flexed, tender on pressure, spindle shaped. Diurnal evening rise of temperature from 100.4° to 101° F.

Treatment.—Rest and extension of knee. No improvement.

August 23, joint opened and partial incision done. Excision of all diseased soft parts, including crucial ligaments. Erosion of cartilages. Packing of joint cavity with iodoform gauze.

Patient discharged November 27, 1901, with fair result. Subsequent history unknown.

CASE III.

Case 2.—N. H., white, single, aged twenty-five; admitted September 10, 1901. Had a history of attack of acute rheumatism some years ago. Swelling and pain in all the joints. Swelling left all joints except right knee, which remained stiff and swollen. Right knee, on admission, swollen, spindle-shaped, semi-flexed, painful on pressure; presenting typical appearance of tuberculous knee. Anchylosis present.

Patient operated on September 12. Complete excision, end of femur and head of tibia. Iodoform gauze drainage, closure of wound. Patient discharged with good union, December 9, 1901.

Case 3.—E. B., white, male, single, aged twenty-six; admitted July 31, 1901. Right elbow and left knee swollen, spindle shaped, presenting tuberculous appearance. Elbow gradually improved under immobilization. Knee grew progressively worse and more painful; knee treated by extension. No improvement.

October 15, 1901, complete excision of joint. Recovery uneventful. Patient discharged with perfect union and good use of leg in walking, April 16, 1902.

CASE IV.

Case 4.—F. A., male, colored, aged thirty; admitted November 5, 1901. Ten years before while working on a steamboat, he scorched his knee, the leg eventually became stiff. Swelling painful, especially over inner and outer tuberosity of tibia and patella, made worse by standing on it. Tuberculous disease of knee joint.

Operation November 12. March 1, patient discharged, almost well, with the exception of ulcer on heel.

Case 5.—E. W., male, married, aged fifty-two; admitted February 13, 1902, died May 12, 1902. Referred from medical service. Knee red, tender, stiff and remarkably swollen. Grew worse. Chest expansion poor; slight cough. No percussion dullness. Urinalysis showed abundant albumen, hyaline and granular casts. Temperature, 101.8° F. Pulse, one hundred and eighteen; respiration, twenty-eight.

Joint opened by a circular incision and tuberculous material scraped out, the edges of the bone curetted, joint sponged with pure carbolic acid and alcohol, wound closed and dressed. At the sixty-ninth day knee joint excised, but bone found to be greatly diseased, femur necrosed, and the extremity amputated at the middle of the thigh. Death occurred on the twenty-first day after operation. *Post-mortem* examination showed pulmonary tuberculosis, chronic interstitial nephritis and chronic cystitis. Pathologic histology showed tuberculosis of the lung, early cirrhosis of the liver, and advanced interstitial nephritis.

Case 6.—W. Mc., single, colored; admitted March 4, 1904. Died October 11, 1905. Tuberculous disease of both knee joints. About two months before admission he became lame in both knees; these later swelled and became very sore.

May 17, resection of the knee done. The articular surfaces of the femur and tibia were removed, and the patella entire. Large amounts of pus and tubercular tissue removed. Leg put up in complete extension. Immediate results good. Four months after operation had convulsive seizures, and on following day died in convulsions.

Case 7.—W. T., colored, male, aged fifty-four, married; admitted May 12; discharged August 6, 1904. General tuber-

culosis. Two years ago right knee began to increase in size, and eight months ago the joint grew so large and painful that he could not work. Two months ago knee was lanced and much pus evacuated. May 15, operation through a semicircular incision over the knee, the patella and articular surfaces of femur and tibia removed. There was good union and uneventful recovery; patient discharged cured.

Case 8.—H. S., male, white, carpenter, married; admitted December 20, 1904; operated on January 10; discharged, February 25. Trouble dates back to five years before, when joint was injured. Three months after this injury he noticed a sort of hitch in the knee when walking. After nine months there was swelling of the joint, this lasted about a year and then disappeared. Swelling then appeared in the popliteal space. On examination the right knee was found in a state of partial flexion; swollen, veins dilated, pressure caused pain, pain on percussion. Resection of knee joint was done January 10, 1905, by the usual method. Discharged cured, February 25, 1905.

Case 9.—G. H., male, white, married, aged thirty-six. Condition began seven years ago, and nothing done in the way of treatment at that time. Three months ago there was jerking sensation in knee muscles, knee stiff and painful. Examination revealed knee tense and in a state of flexion, swollen and very painful on palpation, especially anteriorly; excess of fluid in joint. Excision showed extensive disease. Drained with iodoform; posterior splint. *Post-mortem* showed chronic pneumonis phthisis and chronic interstitial nephritis.

Cases 3, 4, 7 and 8 made ideal recoveries, with perfect bony union, and good permanent use of the leg.

Cases 1 and 2 made good recoveries, but with what amount of subsequent use of the limb I am unable to state.

On the whole, my own limited experience would seem to justify my advocacy of resection in the class of cases above mentioned.

As to resection in children, the well-known objection on the ground of interference with the growth of the limb will always hold good, and yet I am inclined to believe that there are many cases in which an earlier resort to resection would save the lives or limbs of the patients.

Having had no experience with resection of the knee in children, it is outside the field I propose to discuss in this paper.

1110 Cross Lane.

[Written for the MEDICAL BRIEF.]

Cancer of the Skin of the Face.

BY CHARLES WARRENNE ALLEN, M. D.,

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Just why cancer occurs more frequently here than elsewhere on the body surface has never been made quite clear; still, there are a few known reasons. One of them being the degenerative changes which occur in exposed parts such as the face and hands, with advancing years. These keratotic and warty changes known as senile wart, and horny and crusty seborrhea, seem to provide the kind of irritation which is prone to degenerate in a malignant manner. One well-recognized form of the affection has for many years been known as rodent ulcer, but a much more appropriate designation would be rodent cancer, since the term ulcer is apt to be misleading, and give the impression of something different from cancer proper, which is not the case. The term ulcer should be dropped. We have as varieties of face cancer the hard, soft, superficial, deep, warty, sebaceous and pedunculated, beside the rodent, which forms but one type of epithelial cancer.

It is in this form that the new treatment by Roentgen ray has achieved its greatest success, but this new force is not available to all practitioners, nor would it be well, in my estimation, for every medical man to attempt its use. Treatment by the ray must be made somewhat special, and certain ones must devote their time and attention to it, in order to secure the very best results.

The great majority of the skin cancers can be brought to a successful termination

by this method when used to the full extent of its possibilities.

If injudiciously employed, on the other hand, it may even hasten the growth of certain forms of cancer, and may produce injurious effects which seem at times almost as severe as the disease itself. All this, however, can be wholly obviated with proper knowledge and care.

Many of these cancers were very successfully treated long before the advent of Roentgen's wonderful discovery, and there is no good reason why the older methods should be set aside, because of the introduction of a new one, which acts more promptly, perhaps, and is applicable to a wider range of cases.

The old caustic paste of Marsden has been acknowledged the world over as of great utility. There was one objection to it which made its use almost impossible under some circumstances; that is, the element of pain. This objection, I believe, I have almost entirely overcome by the introduction of the use of methyl-para-amido-meta-oxybenzoate to replace the acacia in the original prescription.

The paste, as used by me, consists of one part of white arsenious acid to two of the powder mentioned. If it is to be applied to larger growths, and left on for a longer time, I decrease the strength by making one part of arsenic to four or five or more of the powder. It is mixed into a paste at the time of using by dropping water, drop by drop, until the powder is in a state of even suspension, and then mixing in the arsenic, so that when the product is thoroughly mixed its consistence is that of very thick cream or soft butter.

In applying it to an ulcerated surface (not over one inch square at a time), the surrounding skin should be protected by painting over it several thicknesses of flexible collodion. The paste is spread into the excavation of the ulcer, from which all crust has been removed, and over it is placed one or more thicknesses of cheese-cloth, frayed out at the edges, so as to be more easily pasted down by the collodion used to make the occlusive dressing, and prevent the arsenic from overflowing in an undesirable way.

Many small lesions can be quite well cured by thorough curettage. It is well, however, to apply the paste, even after this surgical procedure, to make doubly sure.

Electrolysis is not without its uses in the cure of surface epithelioma, and many lesions of restricted area can be most successfully combated by the needle, the number of milliamperes of current being usually not over ten or twelve, and oftentimes much less than this will effect the purpose.

In a series of one hundred cases, one-half of them having been treated by these methods before the introduction of the X-ray, the other fifty being treated with the ray, either alone or in conjunction with some older method, the results (which are shortly to appear in book form) were surprisingly similar. About sixty-six per cent were cured in each series. There was one death in each, and about an even number of recurrences.

The ray, however, has a very decided advantage. It can be applied to the most extensive surface at once. Its influence extends to parts which would probably be beyond the reach of caustic paste, thus in the region surrounding the eye, involving extensively one or both lids, at the canthus, etc. Here the ray at times shows its power to wholly eradicate the disease in a way no other method can.

In sarcoma, the results have not been very brilliant; still, here and there success crowns our efforts, and when we remember how impotent we are in the face of these severe conditions, any method which will restore to health even a very small percentage of those so severely afflicted, we must hail it as a godsend.

I have one sarcoma clinically cured.

In the condition which is very similar in many respects to sarcoma, viz., mycosis fungoides, the ray has proven itself capable by removing the lesions from the surface of the body in a manner which seems almost miraculous.

Just how permanent these cures are to be we must naturally have more time to be enabled to say; it is still too early, but from present indications we have in the ray the only known method to-day of giving these patients hope of ultimate cure.

30 East Thirty-Third St.

[Written for the MEDICAL BRIEF.]

One of the Modern Fads in Medicine.

BY M. BELLE BROWN, M. D.,

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In all ages there have been shrines, grottoes, altars, bones of saints, and holy wells, where the ignorant and superstitious have sought healing for their real or imaginary ills and infirmities.

But this modern fad called Christian Science does not embrace among its numbers the superstitious, uneducated and uncultivated classes alone. If you will search among its advocates and followers, you will find people of intelligence, social prominence, education and refinement. "Wherein lies the power of this seductive fanaticism?"

The first answer is: These people are misled and deluded into a sort of spasmodic religion that guarantees them physical health and freedom from disease. From time immemorial, men and women have been willing to be duped or humbugged when their health is concerned, and to be deceived in reference to their souls. Notwithstanding all that science has done in medicine, both in the prevention and curing of disease, there are today many who prefer to go to some clairvoyant, advertising quack, Christian Scientist, a Dowie or a Schlatter, than consult an intelligent physician and receive the benefit of scientific treatment and advice. So, knowing the weakness of humanity, these smooth adepts in the art of deceiving gather in the multitude by promising them health and comfort for both body and soul.

The second answer I made myself was: The power of the mind over the body, or the recognized effects of the mental over the physical. All the vaunted wonderful cures made by these Christian Scientists have been cases of imaginary, rather than real sickness. Those who have been benefited by the theory and practice of these deceptions and faith perversions have become awry in their conceptions as to the reality of sickness and its consequences, so that when actual disease attacks a member of the family a life is apt to be sacrificed.

If the efficacy of Christian Science healing depended on an interference of the ordinary course of Nature this would be a miracle, but these are not being performed now.

All physicians know that optimistic and hysterical people often present symptoms that simulate disease, and many times deceive the most skillful diagnosticians. Then the Christian Scientist, perhaps, gets hold of the patient and tells her "there is no such thing as sickness, that it is only an error of the mind;" the hysterical woman begins to think she will control herself, and so a marvelous cure has been made. The news is spread around the neighborhood and all the gossips are talking and wondering about this new treatment. The case that has baffled the skill of eminent physicians at home and abroad has been cured by a Christian Scientist! When the fact is, "case of nerves" has been brought into subjection. If the power of the will can rectify disorders of the body, if therapeutic suggestion can establish a nervous equilibrium, control the circulation, cast out fear and fill the mind with hope, let every practitioner of medicine study the best method of using this subtle power. The best physician will use all means to aid the sick. But I believe the time is at hand when medical scientists, alienists and neurologists should raise their voices against this rapidly spreading error and false teaching of these Christian Scientists, Dowieites, and others of the same class. Aside from valuable lives that are sacrificed by their devotion to this method of healing, the injury lies in the leading astray of undisciplined people to the believing of half truth and entire falsehood that are so cunningly woven into the teaching of some truth.

It is sad to see people suffering with disease, but it is especially sad to see them, under the power of some great delusion, depriving themselves of the aids and relief of medical science.

The writer has seen prolonged and unnecessary suffering by the followers of this modern fad, cases where prompt medical and surgical measures were required

to save life. I have also seen the hopelessly blind led every day for months to one of these pretenders, kneeling before her in an attitude of devotion, repeating after her, "I am not blind," "Now I can see," paying his five dollars a treatment, expecting every day to suddenly have his vision restored when he would behold this marvelous creature adorned as she always is, in the latest fashion. At last accounts his atrophic optic nerves refused to respond and he still has only a mental picture of this wonderful woman who is still gathering in the shekels from the credulous public. It would take an article ten times as long as this to expose the ethical and moral side of this so-called Christian Science, but I should like to impress upon practitioners that the closer each case is studied—treating the disease and the individual at the same time—the nearer they will approach the ideal physician. There is no such thing as divine power in human hands.

30 West Fifty-First Street.

[Written for the MEDICAL BRIEF.]

The Treatment of Chancroids.

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The treatment of chancroids varies considerably in different cases, and at different times in the same case. It matters not what method of treatment is instituted, the most important point is cleanliness. Here cleanliness is of more importance than godliness. The vast number of different treatments advised is some indication of the difficulty of cure. Whether we use dry dressings or wet dressings, or cauterization, the same careful cleanliness should be carried out.

The ulcer or ulcers should be carefully washed with warm water, then with hydrogen peroxide, followed by some antiseptic, possibly the best is bichloride of mercury, one two-thousandths. This should be done three or four times a day, and oftener if necessary. Not only should the parts be kept clean, but also should be protected, so that the clothing will not cause any irritation, and that the patient may not infect himself in some other place.

A good adjuvant is what is known as "hot soaks," that is, suspending the penis in hot water for ten or fifteen minutes three or four times daily. To this hot water boric acid or some mild antiseptic should be added.

Alcoholics must not be used in any form. Light and easily-digested food is to be recommended.

The patient should be especially warned against any exercise that will increase the congestion or cause irritation of the part. Dancing, horse-back riding, bicycling and walking are the most detrimental. It is hardly necessary to mention that sexual excitement or intercourse are always to be interdicted.

Powders.—Many powders have been used in the treatment of chancroids, notably iodoform, calomel, bismuth subnitrate, boric acid, zinc oxide and others too numerous to mention.

These powders may be used alone or in combination, and will usually produce the desired result. Owing to its very disagreeable odor, iodoform is not to be used at first. However, if the ulcer is not benefited by the ordinary applications iodoform should be applied. The result will usually be gratifying. It is by far the most efficient of all the powders used. I have tried the various substitutes for this drug and have not gotten the desired effect from them.

Instead of the powders we may use what are known as moist dressings, that is, keeping the chancre covered with a gauze or cotton, saturated with some antiseptic solution, such as black wash, yellow wash, bichloride of mercury, one six-thousandths, or any other suitable antiseptic. This should be applied several times daily. If the chancre is spreading, or refuses to yield to treatment, then it should be cauterized under careful antiseptic precautions. A local anesthetic, such as a ten per cent solution of cocaine, should be used. Before applying the anesthetic the ulcer should be thoroughly cleansed and carefully dried. The actual cautery may be employed, or carbolic acid, nitric acid, or copper sulphate. A very good plan is to cauterize with carbolic acid, following

this with nitric acid. The ulcer should be cauterized only once, and that time thoroughly. The surrounding parts should be protected. Nitrate of silver should not be used, except occasionally in a weakened solution, to stimulate granulation. If the chancroid continues to spread in spite of the cauterization and other methods of treatment, then excision is indicated.

In ordinary cases I do not believe that excision is advisable, because of the great likelihood of reinfection, although reports of this procedure are favorable.

Ointments have no place in the treatment of chancroids, nor any other ulcers. They merely retain the secretions and do harm, rather than good. If the chancroid is sluggish and it is impossible to use iodoform on account of its disagreeable odor the next best application is balsam of Peru, one-half to one drachm; oleum ricini (castor oil) one ounce. This should be applied once or twice daily. If the chancroid is located beneath the foreskin, do not attempt to treat by irrigation, but make a dorsal incision, so that the ulcer will be freely exposed, and treated as already outlined. The complications should be treated as indicated in each case.

1916 Market Street.

[Written for the MEDICAL BRIEF.]

Sterility and Its Treatment.

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A woman is said to be sterile when, having had the necessary opportunities, she is unable to give birth to a living child. In absolute sterility conception does not occur, while in relative sterility the patient may become pregnant but is unable to complete the period of gestation. After the menopause and, usually, during lactation, a period of physiological sterility exists.

As sterility may be due to any one of a multitude of different conditions, a complete diagnosis is absolutely necessary before treatment can be instituted with any reasonable expectation of success, and the diagnosis can only be made after an exhaustive examination.

The general state of health is often an important factor. A woman may be sterile when in poor health, but when, as the result of proper feeding, medication and hygienic surroundings, her general condition has been brought up to a proper standard, she may become pregnant. There are a number of systemic conditions which often interfere with reproduction. For example, we may mention anemia, a marked gouty diathesis, a luetic taint, obesity, chronic alcoholism, saturnism, and in some cases, nervous conditions. An indefinable, intangible personal incompatibility is occasionally responsible for sterility, the cases of Augustus and Livia, and of Napoleon and Josephine, being frequently quoted as examples.

Quite recently a number of observers have asserted that prolonged or frequent exposure to the X-ray produces certain changes in the ovaries which render conception improbable, if not impossible. However, the evidence on this point is, as yet, far from conclusive.

Local causes may be found in any one of the several organs involved in the process of generation, and the determining of the local factors involves a careful investigation of the ovaries, oviducts, uterus, vagina and vulva. In the examination of the ovary the possibility of absence or imperfect development should not be overlooked. However, when any one of the reproductive organs is absent or anatomically deficient, the condition is almost invariably accompanied by signs of imperfect development in the other organs. For example, should the ovaries or tubes be absent or insufficiently developed the uterus is likely to be infantile in type, the mammary glands small and undeveloped, and the capillary growth in the pubic and axillary regions scant.

Acute or chronic ovarian inflammation may lead to arrest of function as the result of changes in the ovary itself. Adhesions may form in such a manner as to prevent the entrance of the ovum into the oviducts, or the ovary itself may be imbedded in a mass of adhesions which will prevent the rupture of the ripened ovarian follicles and the extrusion of the ovum.

Displacements of the ovary may cause sterility by placing the ovary beyond the reach of the oviduct and thus prevent transmission of the ovum to the uterus. The development of cysts or malignant tumors in the ovary usually, though not invariably, destroys its function.

With inflammatory conditions of the oviducts sterility is the rule. The tube may be bound down or distorted in such a manner that its lumen is occluded or that the fimbriated extremity can not approach the ovary. If the inflammation is limited to the mucous lining of the tube, the resulting discharge may be fatal to the ovum or the spermatozoa, or the ciliated epithelial lining may be destroyed, rendering the passage of the ovum to the uterus difficult, if not impossible. Under these conditions should conception occur a tubal pregnancy may result. Complete occlusion of the oviduct not infrequently follows tubal inflammations.

Deficient uterine development is a frequent, and usually removable, cause of sterility. The infantile type of uterus is not infrequently encountered, while the conoidal cervix, with pin-point orifice, is comparatively common. The various inflammations involving the uterus are also common causes of sterility. In a cervical catarrh the discharge may act by occluding the cervical canal or by destroying the spermatozoa with which it comes in contact. In an endometritis, the discharge may destroy either the ovum or the spermatozoa, or the condition of the endometrium itself may be such that the fertilized ovum can find no suitable lodgement. In inflammations of the uterus, should conception occur, abortion is likely to follow within a few weeks.

With the exception of acute anteflexions, displacements of the uterus do not, as a rule, interfere with conception. An anteflexion is usually accompanied by sterility, the condition being due either to an obstruction of the cervical canal, to the imperfect development of the uterus, or to an endometritis dependent upon the displacement.

In cervical lacerations there is usually present more or less profuse cervical discharge, and when conception does occur abortion frequently follows as the result of an unhealthy condition of the body of the uterus and its lining membrane.

Subinvolution and hyperinvolution when present are often efficient barriers to conception.

Of the various tumors, sarcomata invariably produce sterility, while carcinomata in the early stages may, and in the late stages always renders conception impossible. A fibroid does not necessarily prevent conception, but it usually brings on an abortion before gestation is very far advanced.

Lacerations of the perineum and extreme shortness of the vagina may cause sterility by rendering the vagina incapable of retaining semen for a sufficient length of time. Genital fistulæ occasionally produce the same result. On account of the profuse discharge, acute vaginitis is almost invariably accompanied by sterility, while urethral caruncles and vulvar hyperesthesia prevent conception by rendering coition impossible.

The prognosis in a given case of sterility depends entirely upon the causes. Where an organ is missing, sterility is practically incurable, though a few cases have been reported where, in the absence of ovaries, ovarian transplantation has been followed by conception. An imperfectly developed uterus may sometimes, with proper treatment, be developed sufficiently to permit functional activity. When sterility is due to disease of the oviducts the prospects of cure are very remote, but where the condition is due to inflammations of the uterus, lacerations, displacements, fistulæ, or even new growths, the prognosis is quite favorable.

After every factor which could have the slightest effect in producing sterility has been discovered, the task of eradicating them begins, and in no other class of gynecological work is more persistent treatment essential to satisfactory results, or does insufficient treatment more invariably result in failure. It is seldom that there is but one obstacle to conception, as several causes usually co-exist.

In considering the subject of constitutional treatment, as a general rule, the diet should be generous, considerable time should be spent in moderate exercise in the open air, while late hours and excite-

ment should be avoided. Ferruginous tonics are often necessary, either alone or combined with arsenic and strychnine. In lithemic conditions, a careful supervision of the diet is essential. The alkaline mineral waters should be used freely, while Turkish baths at frequent intervals are often very beneficial. In obesity, a restricted meat diet, exercise and massage should be ordered, combined with some of the orthodox lines of treatment. Personally, I prefer Cathell's Vichy and Kissengen method, combined with small doses of thyroid extract.

Frequent miscarriages at advancing stages of gestation should suggest luetic infection, and should such a condition exist a prolonged course of treatment with mercurials and iodides should be instituted, this treatment continuing for at least two years.

In saturnism it is essential that the source of the poisoning be eradicated and the poison in the body eliminated or rendered inert as rapidly as possible. This is best accomplished by the use of aromatic sulphuric acid, and magnesium sulphate.

In neurotic conditions nerve tonics and sedatives are necessary, together with quiet surroundings, absence of excitement and very moderate exercise in the open air.

In the treatment of local causes, urethral caruncles, vulvar vegetations, and hyperesthesias which would interfere with coitus, must be eradicated. Vaginal stenoses should be dilated and the canal kept patulous, uterine displacements should be corrected, while inflammatory conditions should be treated with hot douches, local applications, sexual abstinence, rest in bed, etc. In chronic inflammations massage and electricity are often very beneficial. Tumors should always be removed and, as a general rule, lacerations should be repaired.

In some cases after every apparent obstacle has been removed sterility still persists, but, generally speaking, intelligent and persevering treatment will accomplish as much in the treatment of sterility as in any other condition.

34 Washington Street.

[Written for the MEDICAL BRIEF.]

On the Treatment of Acute Lobar Pneumonia.

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The scientific treatment of pneumonia is as much a thing of the future as ever. The only man who ever claims a specific treatment, is the man whose experience is, by accident, limited to those cases which have a tendency to recover. This very reason of the absence of a specific treatment which limits our endeavors to the domain of art, rather than science, makes it our duty, from time to time, to review and refresh our minds in those details of treatment which influence the course of the disease in the direction of recovery. When science supplies us with a specific it will not be any longer necessary to dwell at such length upon art, and to expend so much pains upon the discussion of matters of detail upon which judgments must be formed.

In the first place the classification of cases is important in considering our results. These are easily divided into three classes. In the first class are mild cases of lobar pneumonia in previously healthy people of good habits. These almost universally recover. The second class of cases are severe, or progressive, cases in alcoholics, and the pneumonia which comes to old and feeble invalids. Almost all of these die. The third class of cases are those in which the patient has a fairly severe infection, but at the same time offers a fair degree of natural resistance to the disease. These are the cases that give results from the most careful and elaborate treatment. And it is in the study of these cases that we must look for conclusions as to the usefulness of treatment. If we have to do only with the first class, we attain an undue confidence in whatever treatment we employ. If we have to do only with the second class, we attain an undue pessimism as to all forms of treatment.

It is in the treatment of cases of a frank variety in patients who present a reasonable degree of resistance that we

find our best experience in the treatment of acute lobar pneumonia. In these cases it is a stand-up fight with an acute disease in which the result depends in a large measure upon the treatment employed. Pneumonia is so short an acute disease that not a moment must be lost in beginning the most active treatment, and so rapid is its progress that the therapy that may be appropriate at one moment may a few moments later be absolutely contraindicated. So it happens that it is possible to condemn on apparently reasonable grounds, the very measures which may have been actually useful in the particular case. To plan the treatment of a particular case of pneumonia, except for the moment in the presence of the case would be like trying to plan a series of blows for a prize-fighter. What the physician needs is a definite experience in the use of the commoner drugs to the limit of their physiologic action, and to be removed as far as possible from that ignorant state of mind which would allow the expression that such and such a drug is "good for pneumonia." There is no drug that is "good for pneumonia," though there are many drugs that are useful in the treatment of a patient suffering from pneumonia. Up to the present time, we have no treatment that can directly influence the pathological process. Fortunately, however, this process has a tendency to recovery; provided, the patient's life is prolonged. It is very important that lobar pneumonia should be recognized early and the patient placed under the most expert nursing, and the closest medical supervision.

Much depends upon what is done during the first few hours at the onset of the disease. The patient is, I believe, at this time saved from constitutional injury by well-marked antiphlogistic treatment. For this purpose there is nothing better than the use of aconite or, perhaps, veratrum viride, if one is accustomed to employing that drug. At the same time in a very strong individual I have not hesitated to employ blood-letting. A few days later these same measures might be attended promptly by fatal results, illustrating what we said above, that the only conclusions of any value are those formed in the presence of the particular patient. For the pleuritic pain at the onset of pneumonia it is often necessary to employ morphine, and at this time it does not do any particular harm, while later in the disease, when employed as a sedative, I have seen it many times hasten the death of the patient by its depressing influence upon respiration. The use of hydrotherapy has never, under my observation, received the attention that I think it deserves. The idea is so firmly fixed in the minds of people that pneumonia is a disease that has something to do with catching cold, that idea of bathing arouses opposition.

The early and constant support of the circulation in a patient with pneumonia is necessary, and should be under the care of a physician, according to the indications, as in any other acute disease. Here again it is wrong to say that any particular drug is "good for the circulation" in pneumonia.

The relation of alcohol to pneumonia is one of great importance. During the progress of an acute disease it is a very poor policy for a patient either to attempt, or be urged, to reform his habits of life. If a man has been accustomed for months and years to the use of a given amount of alcohol, that should by all means be continued during an acute illness, because otherwise nervous symptoms will arise from the withdrawal of the alcohol, or if they do arise will be much more aggravated. The person who has been saturated with alcohol for many months is liable to develop delirium tremens from any slight shock to the system, such as breaking a leg, and is almost sure to develop it on account of the onset of this acute disease. So true is this that we have become accustomed to treat our hospital patients of this class who are admitted with pneumonia, with a full expectation of the delirium which almost inevitably follows, and which is so terribly fatal in this disease. However quiet a patient of this class may be on admission to the hospital, we always begin the administration of mild sedatives with the hope of modifying delirium when it does come.

54 West Fifty-Fifth Street.

[Written for the MEDICAL BRIEF]

Cholelithiasis.

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This subject, which is as old as the human race, and which has been known to our science, by reason of its complex symptomatology, since the birth of medicine, and with which the best thinkers and hardest workers have coped; still, in many of its phases, remains a subject of speculation and doubt. The bile from which biliary calculi are formed, was considered by the ancients, and for hundreds of years, as simply an excretion which was eliminated by the liver from the system for the system's good, and poured into the intestinal tract, the supposed common sewer of the system, and thus disposed of. Modern research, however, has demonstrated that the bile, instead of being an excretion from the body by the liver, is manufactured by that organ, and used in the system, aiding the process of digestion, and being probably the most essential factor in that process.

Its ingredients are: Sodium glycholate, sodium taurocholate, cholesterine, and the bile pigments, bilirubin and biliverdin. This product from Nature's laboratory is poured into the upper portion of the intestinal tract, rendering the acid contents of the duodenum alkaline, thus emulsionizing the fats, aiding their passage through the intestinal walls by absorption, stimulating peristalsis, and preventing fermentation of the intestinal contents. From this indispensable element of our systems, gall-stones are formed, or that condition known as cholelithiasis is established. By what abnormal action of the system, or some part of it, is this condition produced? Is it due to the faulty workings of the mechanism of all, or some part of the biliary system? May it be due to a vitiated condition of the bile itself? Is it possible there is some abnormal condition of the general system that is conducive to this condition? The well-established fact that gall-stones do exist in the gall-bladder, without a demonstration of their presence, or any evidence of any general condition in the history that could be construed as favoring their formation, should satisfactorily negative the last two questions. While it is true that there may not be an abnormal general condition that is conducive to the formation of gall-stones that might prevail in any system, it is, nevertheless, a fact that there are certain systems in which this condition is more liable to obtain than in others, these systems being entirely normal for them.

The more closely other systems approximate this peculiar type of system, whether by physiological or abnormal processes, the more liable they become to this condition of cholelithiasis. Technically these systems are classed as the phlegmatic temperaments, or temperaments characterized by flabby muscles, want of energy in the involuntary muscles, a disposition to adipose, small reaction of nerve stimuli, etc., etc. Perhaps the nearest approach to this class of systems, produced physiologically, is that class of women who, by reason of childbearing, have developed some of the peculiarities of these systems, especially a flabby musculature and a disposition to adipose. Next to the class of genuine phlegmatic temperaments we find the condition of cholelithiasis more frequently in these women, occurring in this class five times more frequently than in men. This is not a theory, but a well-known and recognized fact, so well understood that even the laymen recognize these people as good subjects for gall-stones.

From these facts can we make any reasonable deductions, as to the cause of the formation of gall-stones? In a previous paper of this series, discussing the anatomy and physiology of the gall-bladder and ducts, we made emphatic the fact that the walls of the gall-bladder are meagerly supplied with muscular tissue, by reason of which, at best, its contractile qualities were feeble. We also tried to explain the manner in which the operation of the gall-bladder and cystic duct were conducted by reflex-nerve action. We can readily understand how faulty would be the action of this reflex system in the phlegmonic temperament. The nerve stimulus would be feeble; the action of the afferent and efferent nerve fibers sluggish, the nerve centers apathetic, and the musculature flabby and lifeless.

Under such conditions we could only have a feeble action, at best, of these organs, and many times no action at all. What happens? The gall-badder is filled with bile, and the folds of Heister close, or not, as may be. There is no contractile power in the walls of the gall-bladder. The mechanism that should empty and fill the gall-bladder, in more or less regular cycles, is inactive. The bile remains stagnant in the gall-bladder for an indefinite time. From stagnant bile, gall-stones are formed; never from bile that is agitated. At one time it was our privilege to make some experiments along this line. From pigs that had just been killed we procured twelve specimens of bile, from twelve different animals, all healthful. Each specimen was placed in an ounce bottle, fitted with a ground-glass stopper, and then sealed with wax. Each bottle was filled full, so that when the stopper was in there was no air in the bottle. These bottles were placed in an oven, in a dark place, and the oven maintained at animal heat during the entire time of experiment. The apparatus was watched carefully, and the bottles were not disturbed for fourteen days, in which time no apparent change had taken place. The bottles were returned to the oven, without disturbing their contents, and left for fourteen days longer, when they were again examined. In two of the bottles there was a distinct change, the surface of the liquid being more watery, while the bottom was thicker, and scattered through it were structures that had the appearance of globules. The contents of the other bottles were not changed, but the mass in each bottle was thicker and tar-like in appearance. The bottles were once more returned to the oven, left for fourteen days longer, and again examined. In the bottom of the two bottles containing the globular masses there were, in one, three granules, and in the other, four. These ranged in size from a bird-shot to a good-sized pea, and were typical gall-stones. In the other bottles only a thick, dark, viscid substance was found. This experiment proved a few things:

1. That gall-stones will form in stagnant bile, under certain conditions, outsided of the living organism.

2. That bile, from different animals of the same kind, will not form gall-stones under the same conditions, outside of the living organism.

3. That under favorable circumstances, outside of the living organism, forty days are required for gall-stones to form.

4. That the bile from only a small per-cent of healthful animals, outside of the living organism, will form gall-stones, under the most favorable conditions.

Some queries regarding these experiments arise: Why did only sixteen and three-fourths per cent of the samples experimented with produce gall-stones?

Was there some constituent in the two samples, different from those contained in the other samples, that made the difference in the result?

Was there an abnormality in the proportion of the normal constituents of bile in these two samples which caused gall-stones to form?

Is it necessary that a certain definite proportion of the normal constituents of bile be maintained in order to prevent the formation of gall-stones in stagnant bile?

While we have not been able to demonstrate it, we believe that the last query furnishes the most reasonable explanation for the different action of the bile in the specimens experimented with. We can understand how a disproportion between the normal constituents might so weaken the compound that, when stagnant for a considerable time, and under favorable conditions, the cholesterine, or a portion of it, might escape as a precipitate, and form in granules or gall-stones. If this is true, in order that gall-stones may form there must exist, in the bile, an abnormal disproportion of its constituents, and the bile must be stagnant.

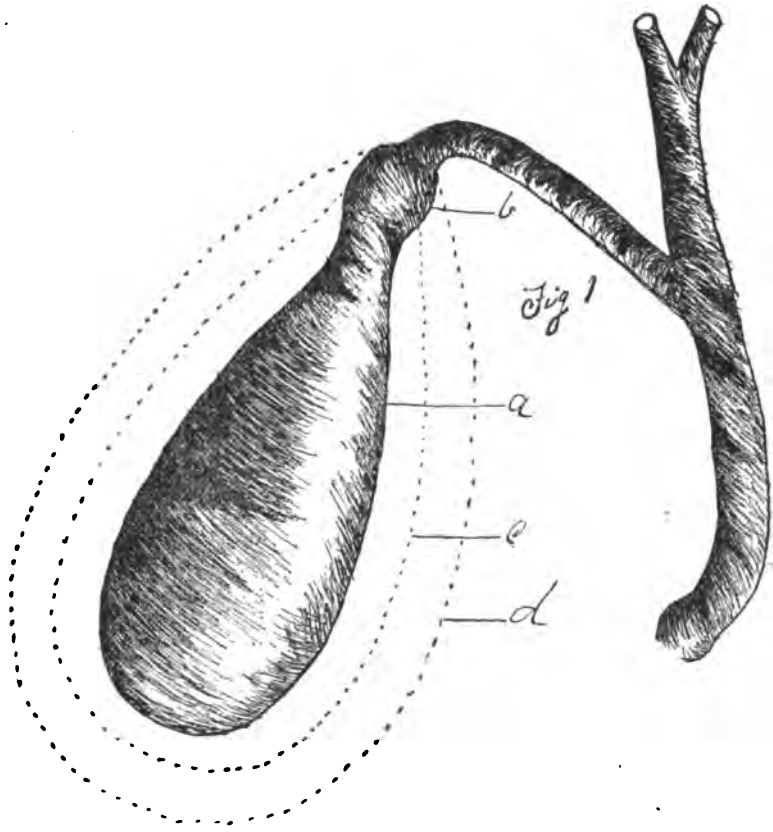
It is remarkable how closely the action of the different specimens of bile in these experiments simulate the action of stagnant bile in the living organism, judging the latter from what is found upon opening the gall-bladder, a diagnosis of gall-stones having been made.

We do not know in just what per cent of cases this dark, viscid bile is present when operating for gall-stones, the latter not being found. The per cent, however, is large. It is not possible for the diagnostician to differentiate between these

two conditions, as the symptomatology is the same in each, unless, perchance, a gall-stone is found in the stools, a very unusual occurrence, however, even if they are present. Hence, we find the tactful making this kind of a diagnosis: "A condition is present in which there may be gall-stones." Our nomenclature, or vocabulary, is deficient here. We need a term to apply to this condition which signifies the presence of either gall-stones or viscid bile, or that condition due to stagnant bile. We have stated the fact that the symptomatology of these conditions is the same, and that a differential diagnosis can not be made. Of course, surmises may be made, and are sometimes made, but they are guesses just the same, though occasionally correct. We have been taught that the pain of cholelithiasis is due to the passage of a stone through the cystic, and common ducts, on its way from the gall-bladder to the duodenum. How can we reconcile the declaration that the symptomatology of these two conditions, is the same with this teaching? If the pain is due to the passage of gall-stones in one, then why the pain in the other, in which there are no gall-stones? We can not reconcile these things, for the reason that one is a fact and the other a fallacy. Facts and fallacies can not be reconciled. This teaching of pain being due to the passage of gall-stones, is about as old as time and as widely accepted as any fallacious thing could be. However, except in very exceptional cases, it is untrue. The common duct is much larger than the cystic duct, hence a stone that could pass the cystic duct would cause no pain in passing the common duct. In cases of cholelithiasis there is no power in the gall-bladder, or cystic duct, to force a stone through the latter. If there were this force would have emptied the gall-bladder of its bile, it would not have stagnated in the gall-bladder, and hence there would have been no stones. It is true gall-stones do accidentally get into the neck of the open cystic duct from the gall-bladder, and are carried through it, as explained later, but there will be little or no pain connected with it.

What, then, is the cause of the pain, the prominent and ever-present symptom of these two conditions of gall-stones, and this viscid tar-like bile in the gall-bladder? In our anatomical study of the gall-bladder, in a previous paper of this series, it is pointed out that the framework of the gall-bladder wall is fibrous tissue mainly, and that over that frame work, externally, is spread the peritoneum. There is no fact in our science better established than this, that when the peritoneum is pulled upon, or stretched, intense pain is produced. We stated in a previous paper that the normal gall-bladder secreted a substance which was essential to the perfect-working of the system. In the formation of gall-stones, or in that condition in which the bile becomes viscid, the gall-bladder is not necessarily diseased. It is inactive because the forces which should operate it are inefficient. The mucous membrane carries on its function of secreting the same as ever, although this secretion does not mix with the viscid bile. The gall-bladder wall becomes tense from its over-filled condition, the fibrous framework distends, and the peritoneum is stretched. There will be no pain until the stretching of the peritoneum commences, neither will the pain subside until the hydrostatic pressure in the gall-bladder has become sufficient to cause a portion of the secretion in the gall-bladder to flow out through the cystic duct. If there are any stones in the cystic duct they may be carried along by this stream. The tension in the gall-bladder is relieved, stretching of the peritoneum stops, and the pain ceases; a cycle is at an end, only to be repeated when the gall-bladder refills. Small quantities of fresh bile may enter the gall-bladder, directly after one of these cycles, and become mixed with the viscid residual bile, or not, as the case may be. It should be borne in mind, at all times, that whatever escapes from the gall-bladder does so after the forces of gravity have been overcome. This is especially true with the subject in the upright position. In the reclining posture the conditions are only slightly changed. Pain, therefore, in these conditions, is not due to the presence of gall-stones. If, by chance, a gall-stone is caught in the neck of the cystic duct, and occludes it, the hydrostatic pressure, within the gall-bladder, continues until the gall-bladder distension is sufficient to distend also the

neck of the cystic duct, thus allowing the stone to fall back into the gall-bladder (Fig. No. 1). The secretion now escapes and the cycle is ended, only to be repeated again when like conditions prevail. We must remember that it is not the contraction of the bladder wall, but the force due to the accumulating secretion, parted to the flabby musculature, and the normal workings of these organs be restored. When this happens the gall-stones may remain in the gall-bladder for an indefinite period of time, causing no trouble, and all of the functions of these organs be executed as though they were not present.



a—Normal gall-bladder.
b—Stone occluding neck of cystic duct.
c—Dotted line demonstrating the possible extent of distention of gall bladder before the secretion flows out, no stone occluding cystic duct.
d—Dotted line demonstrating the amount of distention of gall-bladder before the stone in cystic duct is liberated and falls back into gall-bladder.

which causes the secretion to flow from the gall-bladder.

Having now discussed some of the questions regarding the formation of gall-stones, and some of the symptoms pertaining thereto, we may mention some of the conditions that are caused by them. After gall-stones have formed in the gall-bladder, Nature may assert herself in these unfortunates. The nerve-tone controlling the biliary apparatus may be restored, new life and vigor may be im-

They may cause an irritation of the mucous membrane of the gall-bladder, reducing its vitality and affording entrance to the germs of infection, in which case cholecystitis is established.

They may cause pressure necrosis of the gall-bladder wall, perforation taking place, and peritonitis resulting. By their traumatic influence they may be the direct cause of malignant disease.

This comprises only a partial list of the conditions caused by gall-stones, while

there is a long list of conditions in which they are indirectly responsible.

The treatment of this condition, whether gall-stones are present or a viscid condition of the bile in the gall-bladder prevails, is surgical. These cases seldom terminate favorably without surgical interference. As quickly as a diagnosis of this condition is made the patient should be informed of his condition, and made to understand the usual and the possible terminations of it, and surgical interference advised. The operation in these cases, at this time, is benign and always cures the case, thus preventing those conditions which are so liable to follow, which incur so much more risk in their treatment, and which are so hazardous if not treated.

Technique of Operation.—The abdomen is opened in the usual way for exposing the gall-bladder. The fundus of the gall-bladder is seized with soft intestinal forceps, and pulled upon. This will bring the cystic duct into view. Around this, and about a half-inch from its neck, is placed a plain catgut ligature, No. 3, and left untied. Plenty of gauze is now packed beneath the gall-bladder and its fundus opened. Everything in it is removed, and its mucous membrane carefully, but thoroughly curetted, until it is well scarified. If, during this work, fresh bile begins to flow, the ligature about the cystic duct is gently drawn, until the flow ceases, and then tied. If the bile does not begin to flow, during the work, the ligature is withdrawn. The bile will nearly always begin to flow, however, before the work is completed. The object of this ligature is to prevent the escape of the bile from the system at a time when the system most needs it. Why should we use the bile as an irrigating fluid to wash the gall-bladder in these cases, as is the usual method, when we have other measures just as good, thus allowing Nature the use of the bile? In other words, is it a rational procedure to divert the flow of the bile from its usual course and function, at a time when most needed in the working of the system, simply for the purpose of using it as an irrigating fluid, when we have other measures which will serve just as good a purpose? This ligature will last six or seven days before it is sufficiently absorbed to lose its grasp. It can do no harm if properly applied. After the thorough curettement of the gall-bladder, its fundus is brought out through the abdominal wound and a rubber tube introduced deeply into it. The gall-bladder is then fastened to the parietal peritoneum in the usual way and the abdomen closed. With a saturated solution of boric acid, the gall-bladder is irrigated, twice daily, for eight or ten days, or until the bile begins to flow from the tube and so demonstrating the absorption of the ligature, when the tube is withdrawn, and the wound in the bladder allowed to close. The curettement in these cases stimulates the nerve-endings in the bladder wall, and thus revivifies this structure. We wish to emphasize this fact, that we only use the ligature about the cystic duct in those cases where there is practically no disease of any of the biliary apparatus, the whole condition being due to a lack of action, or so sluggish an action that stagnation of the bile in the gall-bladder results and gall-stones are formed, or not, as may be. The machinery is all intact and ready to do its work, but the power is lacking. The operation is done to remove the debris from the machinery and stir up its motor power. In this operation it is not necessary to drain the whole biliary tract, as in that class of cases where there is extensive disease of the biliary passages.

In this paper we have only spoken of the formation of gall-stones in the gall-bladder. That they do occasionally form in other parts of the biliary tract is unquestioned.

4625 Greenwood Avenue.

[Written for the MEDICAL BRIEF.]

Eczema Cure.

BY T. HENRY WHITING, M. D.,
Elgin, Ill.

This salve is valuable in all cases where there is a very scaly eruption, especially the head or beard:

℞ Icthyol .....1 ounce.
Sulphuric Acid.....2 drops.
White Vaseline .....3 ounces.
M.

Apply with cotton.

to save life. I have also seen the hopelessly blind led every day for months to one of these pretenders, kneeling before her in an attitude of devotion, repeating after her, "I am not blind," "Now I can see," paying his five dollars a treatment, expecting every day to suddenly have his vision restored when he would behold this marvelous creature adorned as she always is, in the latest fashion. At last accounts his atrophic optic nerves refused to respond and he still has only a mental picture of this wonderful woman who is still gathering in the shekels from the credulous public. It would take an article ten times as long as this to expose the ethical and moral side of this so-called Christian Science, but I should like to impress upon practitioners that the closer each case is studied—treating the disease and the individual at the same time—the nearer they will approach the ideal physician. There is no such thing as divine power in human hands.

30 West Fifty-First Street.

[Written for the MEDICAL BRIEF.]

The Treatment of Chancroids.

BY E. LEE HEFLIN, M. D.,

Professor of Genito-Urinary Diseases, Hospital College of Medicine; Lecturer on Surgery in Louisville College of Dentistry.
Louisville, Ky.

The treatment of chancroids varies considerably in different cases, and at different times in the same case. It matters not what method of treatment is instituted, the most important point is cleanliness. Here cleanliness is of more importance than godliness. The vast number of different treatments advised is some indication of the difficulty of cure. Whether we use dry dressings or wet dressings, or cauterization, the same careful cleanliness should be carried out.

The ulcer or ulcers should be carefully washed with warm water, then with hydrogen peroxide, followed by some antiseptic, possibly the best is bichloride of mercury, one two-thousandths. This should be done three or four times a day, and oftener if necessary. Not only should the parts be kept clean, but also should be protected, so that the clothing will not cause any irritation, and that the patient may not infect himself in some other place.

A good adjuvant is what is known as "hot soaks," that is, suspending the penis in hot water for ten or fifteen minutes three or four times daily. To this hot water boric acid or some mild antiseptic should be added.

Alcoholics must not be used in any form. Light and easily-digested food is to be recommended.

The patient should be especially warned against any exercise that will increase the congestion or cause irritation of the part. Dancing, horse-back riding, bicycling and walking are the most detrimental. It is hardly necessary to mention that sexual excitement or intercourse are always to be interdicted.

Powders.—Many powders have been used in the treatment of chancroids, notably iodoform, calomel, bismuth subnitrate, boric acid, zinc oxide and others too numerous to mention.

These powders may be used alone or in combination, and will usually produce the desired result. Owing to its very disagreeable odor, iodoform is not to be used at first. However, if the ulcer is not benefited by the ordinary applications iodoform should be applied. The result will usually be gratifying. It is by far the most efficient of all the powders used. I have tried the various substitutes for this drug and have not gotten the desired effect from them.

Instead of the powders we may use what are known as moist dressings, that is, keeping the chancre covered with a gauze or cotton, saturated with some antiseptic solution, such as black wash, yellow wash, bichloride of mercury, one six-thousandths, or any other suitable antiseptic. This should be applied several times daily. If the chancre is spreading, or refuses to yield to treatment, then it should be cauterized under careful antiseptic precautions. A local anesthetic, such as a ten per cent solution of cocaine, should be used. Before applying the anesthetic the ulcer should be thoroughly cleansed and carefully dried. The actual cautery may be employed, or carbolic acid, nitric acid, or copper sulphate. A very good plan is to cauterize with carbolic acid, following

this with nitric acid. The ulcer should be cauterized only once, and that time thoroughly. The surrounding parts should be protected. Nitrate of silver should not be used, except occasionally in a weakened solution, to stimulate granulation. If the chancroid continues to spread in spite of the cauterization and other methods of treatment, then excision is indicated.

In ordinary cases I do not believe that excision is advisable, because of the great likelihood of reinfection, although reports of this procedure are favorable.

Ointments have no place in the treatment of chancroids, nor any other ulcers. They merely retain the secretions and do harm, rather than good. If the chancroid is sluggish and it is impossible to use iodoform on account of its disagreeable odor the next best application is balsam of Peru, one-half to one drachm; oleum ricini (castor oil) one ounce. This should be applied once or twice daily. If the chancroid is located beneath the foreskin, do not attempt to treat by irrigation, but make a dorsal incision, so that the ulcer will be freely exposed, and treated as already outlined. The complications should be treated as indicated in each case.

1916 Market Street.

[Written for the MEDICAL BRIEF.]

Sterility and Its Treatment.

BY ALFRED DE ROULET, B. S., M. D.,

Chicago, Ill.

Formerly Professor of Diseases of Women in the Medical Department of Trinity University.

A woman is said to be sterile when, having had the necessary opportunities, she is unable to give birth to a living child. In absolute sterility conception does not occur, while in relative sterility the patient may become pregnant but is unable to complete the period of gestation. After the menopause and, usually, during lactation, a period of physiological sterility exists.

As sterility may be due to any one of a multitude of different conditions, a complete diagnosis is absolutely necessary before treatment can be instituted with any reasonable expectation of success, and the diagnosis can only be made after an exhaustive examination.

The general state of health is often an important factor. A woman may be sterile when in poor health, but when, as the result of proper feeding, medication and hygienic surroundings, her general condition has been brought up to a proper standard, she may become pregnant. There are a number of systemic conditions which often interfere with reproduction. For example, we may mention anemia, a marked gouty diathesis, a luetic taint, obesity, chronic alcoholism, saturnism, and in some cases, nervous conditions. An indefinable, intangible personal incompatibility is occasionally responsible for sterility, the cases of Augustus and Livia, and of Napoleon and Josephine, being frequently quoted as examples.

Quite recently a number of observers have asserted that prolonged or frequent exposure to the X-ray produces certain changes in the ovaries which render conception improbable, if not impossible. However, the evidence on this point is, as yet, far from conclusive.

Local causes may be found in any one of the several organs involved in the process of generation, and the determining of the local factors involves a careful investigation of the ovaries, oviducts, uterus, vagina and vulva. In the examination of the ovary the possibility of absence or imperfect development should not be overlooked. However, when any one of the reproductive organs is absent or anatomically deficient, the condition is almost invariably accompanied by signs of imperfect development in the other organs. For example, should the ovaries or tubes be absent or insufficiently developed the uterus is likely to be infantile in type, the mammary glands small and undeveloped, and the capillary growth in the pubic and axillary regions scant.

Acute or chronic ovarian inflammation may lead to arrest of function as the result of changes in the ovary itself. Adhesions may form in such a manner as to prevent the entrance of the ovum into the oviducts, or the ovary itself may be imbedded in a mass of adhesions which will prevent the rupture of the ripened ovarian follicles and the extrusion of the ovum.

So with life. The process of evolution has its all-embracing *modus operandi* in the response in structure to an influx in function. The descent of life means the ascent of form. A force *par excellence*, life stands for the unit and genesis of every aspect of energy, containing in essence every possibility of expression, starting ascending series of forms in the gamut of evolution, as it, step by step, unfolds the degrees of beauty, intelligence and power contained in the impulse; while the readiness of the form to respond may be hastened by the accessory agencies at work in the respective environments. When, by reaction, form presents structure, life presents function. When the physiological mechanism and plasticity of substance of the ameba presented opportunity to a functioning of the innate powers of sensation, locomotion, and digestion, the structures of stomach, limbs and sense organs responded to the call. From ameba up, the respond of substance to life, of structure to function, is registered by the influence held by the environments over the unfoldment of the entity. And this again presents the scope and character of man's power in affecting existence; in *assisting* life, not in *creating* life.

Thus, we arrive at the crucial stage of the subject; the existence, and the demonstrable existence in natural evolution of ungenerate, vital force. As a means of demonstration the very expression in our language of force and matter, as separate concepts, is not without scientific value, as the expression springs from the universal appreciation of these factors in the processes of growth, of action and reaction, of impulse and response, of cause and effect. And this concept involves not only a difference in points of essence, but, likewise, in points of priority. Either has matter preceded life, or life has preceded matter. If the former be the case. and matter, by preceding life, must also be capable of generating life, it follows, by implication, that it is also capable of existing without it. But why should matter go to the expense and trouble of generating a subtle, undefinable, meaningless, and functionless something, without which it already had proved itself adequate to exist? Matter, being self-sustaining, the subsequent generation of life would amount to a mere abiogenetic luxury, without necessity, and hence without survival value. Judged from a standpoint of the actual and concrete, such a view of life annihilates itself in a *reductio in absurdam.*

For do not the phenomena of growth, and the logic of events proclaim the very opposite? Is it not true that matter to its very nature is receptive, hence passive and inert, with an ever-present tendency towards arrest and dissolution. Its predominant characteristic is to invite external action, *i. e.*, to be affected, to be acted upon. Pre-eminently heterogeneous and incoherent, its position and value as an evolutionary factor depends on its quality of being an experimental field for Nature's finer forces. Its complexion changes with the character of the force by which it is acted upon, and indicates by way of anatomical and physiological changes the presence and significance of vital mental or psychic states, with the same accuracy as a thermometer registers the thermal states of the atmosphere. For what are the subtle, but tremendously-expressive changes in an individual's features, by which the rise and fall of emotions are revealed, but the manifestation of life in terms of reaction to specific environments?

Now, if we are to regard life as a mere secretion of matter, and "vital force a specter of an imaginative brain," as a writer in one of our magazines lately expressed himself—the complications to be dealt with lie in the phenomenon of a substance—matter—equipped with power to generate a force—the vital principle—so vast and tremendous in its nature that its reactions, as witnessed in cases of sudden mento-vital shocks, may rupture its physical basis, and break down the very organism in which it has its alleged source, center and possibility of being.

Furthermore, if matter gives rise to life, and hence precedes life in the order of existence, it must, consequently, also possess the power of surviving life, *i. e.*, be self-sustaining, timeless and eternal. But to be eternal means to be changeless, birthless and deathless, *i. e.*, devoid of growth and evolution! Hence to the extent matter is subject to growth and evo-

lution, to that extent is it non-primogenitive in the order and power of existence. And as the very fact and logic of natural evolution holds matter subject to growth, its position must unavoidably be shifted from the stage of cause to the stage of effect.

Now, the very nature and meaning of an effect is to prove the presence of a cause, and as matter fails to comply with the test conditions requisite to prove it a cause, the latter must be found in that energy which triumphantly meets and answers every test-condition, *i. e.*, life itself. In life we meet no attributes of the finite, the measureable, weighable, changeable, or determinable. Its position in evolution is that of action, in contradistinction to matter which finds its position in reaction. Hence, while life takes a part *in* evolution, it is not yet a part *of* evolution, as action, in itself, is not the effect or result of evolution, but rather its impelling motor; while the principle of reaction explains the true character of evolution, with its ever-varying sum total of growth, proceeding through an unstable, because progressive, equilibrium. Hence, life imparts, matter responds; life evolves, matter is evolved; life acts, matter reacts; life, the impressive, fashioning force, matter its expressive, plastic medium.

Principally and fundamentally, the processes initiated in the laboratory at Pacific Grove, differ in no way from the metamorphosis of plant life engendered in Luther Burbank's magic gardens at Santa Rosa. With the same indomitable passion and restless energy of his famous co-laborer in the field of evolution, Mr. Burbank spends his time and ambition in preparing new and ever-more perfect vehicles for the manifestation of life. So far from disproving his evolution, the action of a self-sustaining "vital force," these great scientists, in equal measure, have rendered its presence logically indispensable, by practically demonstrating each in his particular way, the truth of the old, classic maxim: *Omne vivum ex vivo.* For, after all, the startling "creations" of the California wizard-gardener have so far amounted to mere dexterous combinations of already existing characters. His "pitless prune" is a progeny of ancestral types known in France since two or more centuries under the name *prun sans noyau*, secured by Mr. Burbank, and successfully crossed with his own familiar prunes. A similar history is back of his "spineless cactus," which represents the final outcome and triumphant culmination of numberless crossings and recrossings, carried on between domestic characters and exotic species of *opuntias*, collected in Mexico, Peru, and South Africa, and among which were occasionally found spineless varieties, some without prickles, and others without thorns. From these germinal characters he developed the present horticultural marvel, the spineless cactus, destined to introduce an epoch in the redemption and cultivation of the desert. In the production of his alhambra prune —the sum total of crossed characteristics selected from Japan, Europe, and South America—we have similar exhibitions of the principle at work in the unique experiments and experiences of Luther Burbank.

Thus the keynote and explaining factor to this modern alchemy is found in the latent characteristics held suspended probably for ages, as mere idea or potentiality in the plant form, now and then to yield up to stimuli of suitable environments and present the phenomena of atavism. The colossal value of Luther Burbank's work lies in his wondrous keenness of mind in deciphering Nature's insignia, and preparing suitable conditions for their display. And as Dr. Loeb, by his saline solutions, paves the way for the life-current to start cycles of mitosis in artificially-fertilized ova, so Luther Burbank, fixing the desired characteristics of a series of selections into a composite picture of vegetable growth, exposes the ensuing matrix to the action of life, while the cell structures, thus consolidated, merge their several qualities into the new type of vegetation which henceforth becomes the carrier and representative of the unified life-impulse. However unique and startling, the new character is original only to *form*, not to *principle*—a composition, not a creation. It is the old, eternal, changeless life force, invited to vitalize a new combination of substance and structure. It is a fascinating operation, this play with unknown quantities,

where Nature, conditioned by physical laws in her organized labors, is compelled to enter the made-up forms and combinations placed in her course, and endow them with life, as long as they comply with the rules and regulations of her system.

Hence, being mere projections of man's constructive imagination, these hybrids, in all their wondrous characterizations, are largely self-dependent growths, isolated in a measure from natural relations, and require the constant assistance of artificial environments to sustain their evolution. "Brilliant, large-flowered, orange-red perennial poppy—magnificent hybrids—were nearly all sterile," remarks Professor Hugo de Vries, in a description of Burbank's wonder gardens. "Some of them terminated in a dried-up stub without flowers, others had a minute rudiment of fruit, others only remnants of calyx and cordella." The evolutionary life-current, rendered convulsive by the temporary tributaries, which, in the forms of wide-reaching selections and repeated crossings, are emptied in its flow, asserts its cumulative vigor in the drastic and unique animation of the complex structures placed in its course. But when the tributaries have exhausted their supply the life current reassumes its normal momentum, and the forms farthest projected from their biologic basis lose their vital coherency and fall back into the old lines of evolution. For man can combine, construct and direct, but not *create*. The driving impulse of growth—life—while yielding to man's manipulations, has still its source outside the scope of his powers.

These facts, however, do not militate against the powerful influence man holds over Nature, and her evolutionary output. The life-history of the potato, orange, apple, tomato, and other genera reveal primogenitors of the lowest biologic character—small, often poisonous, and utterly invaluable as foodstuffs. Through his powers of thought and reason man discovers the laws and principles back of growth, and by increasing in the various entities of Nature their powers of response to life, a corresponding increase of momentum is added to their evolution. But while man thus wields the power to render himself a conscious agent in evolution, he, on the other hand, is himself depending for its growth on the response or reciprocity he offers to impulses of that same evolution. Consequently our Loebs and Burbanks, while admirable craftsmen in the building trade of life, are—we must reiterate it—by no means its creators. They design, combine, and adjust, but the operative material is already at their disposal, and their designs and plans are acceptable only to the extent their execution falls in line with the eternal laws and principles back of life and growth.

Man deals with life, but is himself dealt with. A force among other forces, he is at once acting and acted upon; at once adjusting and adjusted. Without deprecating the enormous influence held by *homo sapiens* in evolution, it may, nevertheless, be reasonably questioned whether man has power to create a force—the vital force—of which he himself is a form and an expression.

And what has been said about the character and meaning of the ingenious labors proceeding in the biological laboratory at Pacific Grove is in no way less applicable to the experimentation going on at the Cavendish Laboratory, Cambridge. The "radiobes" of John Butler Burke do not more expose the ultimate origin and nature of life than the spermless fertilization of the eggs of Dr. Loeb's sea-urchins. These savants have simply sunk their field of experimentalism to deeper shafts of existence, where they are able to view the vital processes of existence on a closer range.

Critics of the Cavendish experiments set forth the seeming unreasonableness of eliciting life through a process in which the generative agent—radium—is in itself fundamentally hostile to every expression and form of life. This criticism, however, has meaning only as far as it is leveled against the claim of a *creation* of life; while, as a means leading to a deeper knowledge of life, radium undoubtedly has an extraordinary scientific value. If evolution means the unfoldment of form under the pressure of an interior, self-assertive energy, then the entire biologic image has its basis and philosophy in a continuous splitting process of elemental substances, subverting the unity of essence into a variety of appearance. A

fountain of universal existence, evolution, through its biologic output, reveals the scope and character of the forces at work in its vital current. And as the force, active in the fountain, by overcoming the resistance and friction of opposing environments, sends the liquid masses into mid-air as towering columns of an ever-unstable equilibrium, is not caused by, nor inherent in, the water itself, but in the influence of the surrounding atmospheric pressure, so, likewise, back of the protoplasmic stream—a veritable fountain of life—moves the silent, invisible essence of life itself, lifting the whole sliding scale of elemental and organic structures up to ever-higher altitudes of evolutionary fitness.

The pursuit of life as an elementary expression must, therefore, logically lead through a breaking up of forms into compounds of increasing simplicity, *i. e.*, from diversity back into unity, a process in which the dissolution of one form of life prepares conditions and environments for the setting free of others interior, and hitherto unsuspected forms and energies of life. For is it not an already fairly-established fact that radium itself is such a new form, liberated by the disintegrating processes of *uranium?* The destructive quality observed in the influence of radium upon its environments, merely reveals the slow, almost directly perceptible action of life on these deeps of unexplored, because of largely non-evolved existence, where the simplicity of structure and crudity of substance necessitates this slow momentum of the life-force. Hence the "radiobes" developed in the sterilized gelatin-culture of Mr. Burke's test-tubes, are a logical outcome of natural evolution traced back along its initiatory stages. But the phenomenon while new to science, is not new in itself, and life *per se* antedates these primitive forms as far as the sun antedates the light of a tallow candle.

Directly or indirectly, consciously or unconsciously, this feverish chase after the origin and nature of life animates every aspect of modern science. In the wonderful achievement in artificial nerve-anastomosis, as great a step has been taken towards a rational appreciation of the phenomenon of life, as was ever advanced through researches in biology and radio energy. For what is the triumphs achieved by modern surgery in restoring to ruptured nerve centra their power of normal functioning by substituting injured nerve fibres with sound ones, but the action of the same principle of artificial conduction by which Dr. Loeb succeeds in inviting the vital current in his parthenogenesis over new paths of action? When, Dr. Kennedy, of Glasgow, who, some time ago succeeded in curing facial spasm by dividing the proximal end of the *facial* nerve and anastomosing its distal end with a branch of the *spinal accessory*, he did not "create" a new vital force for the occasion, but simply established a structural connection over which this force could transmit its vital message without the interruption of a diseased nerve fiber. Like water, light, electricity, or any other known or unknown force, life in itself is eternally intact, while its modes of manifestation, and the degree of functional response in the engaged organism depend on the media of transit. Whether appreciated as nerve force, vital-energy, mental power, chemical agents, or any aspect of growth or power, they are all expressions of the same eternal, undifferentiated world dynamic, imparting motion and consciousness to substance in terms of vegetation, animation or cerebration.

But to trace the course and genesis of an energy at once timeless, spaceless and measureless, must naturally involve the operation of some other agency than the magnifying lens and dissecting knife. For as the measurement, for instance, of the wheels and levers in a machine, and the calculation of their time of revolution, etc., however accurately carried out, will never reveal to the student the nature of the motor power back of the motion, and still less the nature of the engineering intelligence back of the motor power, so the study of life, to be intelligent and meaningful must require something besides the mere observation or experimentation of its molecular and transitional mechanism. Intangible to its nature, life requires for its realization the engagement of faculties and powers belonging to a different sphere of intelligence than the merely calculative and analytic. For, while the purely mechanical or structural phases of existence —the *forms* of life—can be rendered in-

telligible through the analytic and dissective method, its dynamic or vital aspect—the principle or soul of life—require for its comprehension a grasp of existence as a synthetic unit, *i. e.*, life as an inspiration and an ideal. In itself formless, life is accessible only to a consciousness which does not exclusively depend on touch and refraction for intelligence and verification, but upon the supreme reasonableness contained in the nature and causation of things. How life acts upon us is discernible through touch, but what life is, in itself, is not a problem of touch, but of feeling.

For feeling is to the world of dynamics what touch is to the world of mechanics—the cuticle of the mind, so to say, by which self-consciousness is brought into intelligent communication with the various aspects of universal life. And, forthermore, as touch constitutes the background or fundamental basis in which the entire sensorium has its seat and structural genesis, so in feeling is found the sounding board or interpreting medium to every thought-impulse of the world. We think deeply, because we feel deeply; and genius and wisdom have their source and power in the penetrating depth and discerning keenness of feeling.

Hence, to ascertain *how life acts*, we must invoke the aid of general sensation, with its attending method of analysis; while to ascertain *what life is*, as transmolecular, self-sustaining essence, we must invoke the power of feeling. There is a danger of a one-sidedly specializing and experimental science to spoil its chances by fixing its procedures into casts of exclusive analysis. By exaggerating the significance of the *parts*, it is apt to lose sight of the whole, and the comprehensive reality of the world-picture is likely to get lost in the one-sided and isolated attention bestowed on its accessories and details. Analysis, if not co-ordinated and directed by a comprehensive, synthetic sense of ultimate unity, is fatal to truth. Dean Swift, in one of his satires, speaks of a scientist who under the spell of a frantic love for the analytic method, in his attempt to define the character of a citizen, succeeded, by a series of analytic processes, to reduce him into a state of carbon—utterly lost to any civic or even biologic recognition. Analysis, as exclusive method, stalks around in its house of problems like an ant in the interior of a statue, trying to discover the character and purpose of its environments by measuring the cavities and elevations of the territory; while the synthetic method, if permitted to be represented by the same illustration, chooses a position outside the statue, and hence is able to obtain a survey of the form in its entirety, and to grasp the true meaning and inspiration of the work. Exclusive analysis lay back of the old Ptolemaic astronomy, with its geocentric system of cycles and epicycles, in which the appearance of every new planetary phenomenon had to be accounted for by an ever-increasing complexity of staggering stellar mechanics; while the advent of the synthetic mode of reasoning, as represented in the heliocentric conception of Kepler and Kopernicus, reduced the problem into the operation of a few master principles of universal motion.

The scientific cohort, or the cohort of science, which has taken the problem of life under its special consideration, speak in one breath of "vital force as sheer nonsense," and of the power of science not only to discover this "nonsense," but, indeed, to create it. While it is the legitimate and hopeful right of every truth-loving mind to seek for life and its origin, yet we can offer neither sympathies nor encouragement to such arrogant claims. For to be successful in the tremendous task of finding the principle of life means a complete reversion of ordinary scientific methods. To find life we must ourselves become foci of light—the light of feeling and self-consciousness. The objection that feeling is unreliable is only because it is mostly found to be impure; as the only way to render it reliable is a sincere aspiration for light and truth, coupled with a purpose of devoting these powers to an unselfish service of mankind. Science for science's own sake—for the gratification of personal pride and ambition—spells defeat to its devotee; while, on the other hand, there is a law, as immutable as gravitation, which demands that efforts, extended for the sake of truth

and usefulness, with an aim of rendering human life more beautiful, more happy, and more truly divine, will react in a diffusion of more light, more wisdom, more power to him who extends them.

The profoundly grand and true is always the profoundly simple. Truth is not a fugitive hiding in the pathologic twilights and labyrinths of a too technical and specialized science, to be discovered and dug out by the microscope and scalpel; truth dwells on the hilltops, and is ever trying to find a way for its light into the properly-adjusted mind. And so it may be that the truth of life which today is sought for with so much eagerness and passion, may hold a similar relation to the strenuous scientist of today, as the goddess of fortune in the old Arabian tale held to the delirious fortune-hunter, who, while imagining himself pursuing Fortune, in reality was pursued by her, but by his restlessness and constant makeshifts, unconsciously succeeded in evading her. The attentive attitude of the poised mind may offer more inducement of manifestation of truth than a mind trembling under the tension of a high-wrought, personal ambition.

"They also serve who merely stand and wait."

611 South Flower Street.

[Written for the MEDICAL BRIEF.]

Eye Inflammation.

BY R. F. PATTERSON, M. D.,

Sturgeon, Pa.

I have been a practitioner of the healing art since 1873, and had an experience recently in the causation of eye inflammation that I do not think has ever been recorded. Mrs. D., a healthy specimen of womanhood, presented herself for treatment; eye-lids swollen, conjunctiva congested, which she claimed was caused by using stove polish on the previous day. I gave her the old remedy, so well known to the medical profession:

℞ Acid Boracic .....6 grains.
Aqua Camphor.....1 ounce.
Aqua.....1 ounce.
M. Fiat sol.

I need not waste space giving directions of this well-known eye water. Can any of your readers give a similar experience.

[Written for the MEDICAL BRIEF.]

The American Woman.

BY GEORGE H. TICHENOR, JR., M. D.,

New Orleans, La.

Woman as a Wage-Earner.—A Census Bureau report on occupations, shows that in continental United States the total number of persons engaged in gainful occupation in 1900 was 29,073,233, which constituted one-half of the population, ten years of age and over, and nearly two-fifths of the entire population. Of these, 4,833,630 were women, and 7,750,178 were children. Those of foreign birth aggregated 5,851,399, or one-fifth of the total number of gainful workers. Statistics are also quoted to show that only about two-thirds of the men and women of our country now ever marry, and this proportion is constantly being lowered. These statistics prove to my mind that this relatively low marriage rate is attributable to the increasing ability of women to get gainful employment, the indisposition due to immorality and inability of the men to take upon themselves the burdens of married life, owing to low wages and high prices (relative) of the necessities of life.

It would not be natural to suppose that the majority of these men and women prefer single life. I believe that a great many of these women, like the unmarried women teachers, of whom there is something like three hundred thousand in this country, look upon their employments as only temporary, either for the purpose of aiding in the support of their families, or for the purpose of being able to dress a little finer, and to have more pin money to spend for amusement—are waiting for some man to lead them to the altar. However, it is not my duty as a physician, or is it the purpose of this book to discuss the factors which have brought about this condition of affairs, but merely to state the condition, and to show the effect with the hope that they will be heeded and remedied.

The effect of this present condition of affairs upon woman is to impair her physical fitness for maternity, and to subject her to a false system of education, which mentally, physically, and morally unfits

her for motherhood, while the child, if there be any, from lack of association with the good and wholesome influence of its mother as she ought to be, is practically abandoned to follow the whims of its fancy, and the lessons of life learned by experience, which are always in the majority of cases, detrimental to the child itself and its associates.

It was due to this fact that France instituted the Council of Salubrity, which determines "what branches of industry a woman may engage in without detriment to her health." We should have such a council ourselves.

Every physician and the great majority of the thinking public are aware of the forms of nervous diseases due to shop girls standing too long on their feet without the proper interval of relaxation; eye strain, due to prolonged and tedious sewing; various forms of nervousness, and unequally developed portions of the body, due to a prolonged specialized monotonous labor; distortion of the pelvic bones, which renders child-birth dangerous and sometimes impossible, due to sitting too long in one position in such occupations as seamstress, stenographer, cashier, etc.; dyspepsia, due to bolting of food when the body is tired out; nervous prostration and physical decline, due to over-taxation of mind and body without the proper relaxation, etc. I could continue the list up to the thousands if it were necessary.

Everybody admits, where maternity is concerned, that woman has no place in the business world—even those who are thus engaged would willingly admit this fact. However, it is not the laboring man's wife, the wash-woman, car-man's wife, etc., who fail in fecundity, unfortunately for our civilization, although they are over-worked and in many instances have poorly-nourished and formed physiques; nor is it the mate of the middle-class man, that ideal housewife and preserver of the morals, mind and brawn of the country, but that destroyer of home and happiness, waster of resources, breeder, not of children, but of iniquity, the pretty, social, ambitious leader of society who has unlimited, unused leisure to devote to nothing but soul-benumbing selfishness, annoying her husband, creating sensations by divorce suits, aided and countenanced by a certain class of oily and sleek hypocrites in clergymen's garb, whose efforts simply amount to discussing, tabling the divorce question at ministerial conferences, and receiving large fees for remarrying divorced couples.

The Society Woman With Unlimited, Wasted Leisure.—Michand finds a steady fall in the birth rate of men of talent, from New England westward. In New England out of every 100,000 births 54 are those of men of talent; in New York that number falls to 34, in Ohio to 19, in Indiana to 11, in Illinois to 10, in Missouri to 6, in Kansas to 2, in Colorado to 1. This was learned by comparing, by States, the number of persons whose names appear in a directory of those prominent in public life, the arts and sciences, and literary pursuits, with the total number of persons born.

The objection, of course, to these statistics is that a great many of these men as, for instance, in New York City, are not natives, and after they have become famous and prosperous have broadened their field of work by moving to a larger center of activity, where opportunities are greater.

There is no doubt, also, that Puritan descendants of the middle-classes, in the majority of cases, more so than in any other States, have made the sacrifice of a part of their earthly possessions in order to satisfy their spiritual needs; the people who left New England for the West willingly sacrificed spiritual and intellectual advantages to acquire earthly possessions. In these things I agree perfectly with Mr. Michand. But statistics which can not be disputed show that the wealthy and poor of New England are spiritually, to say at least, worse off than the whole world. According to Rev. W. Stanley Emery, rector of Trinity Episcopal Church, Concord, N. H., New Hampshire is the greatest divorce community in the United States, if not in the world, leaving Japan out of consideration.

Dr. Emery says the statistics show one divorce to every 7.7 marriages, or a total of 26,460 persons affected in twenty years by the severing of the marriage tie. The marriage laws of the State fix the age of consent for the female at 13 and for males at 14, the ages being stipulated

in every marriage license. These laws, in my opinion, show lack of commonsense, and the depravity of the people by letting them thus stand on the statute books.

These statistics prove what may be easily detected by any one who has traveled extensively over the American continent. My experience has taught me that the real American aristocracy of breeding, culture and brains, rather than of money and display, is in the smaller towns of the interior, rather than in the great seaboard cities and the inland capitals. Here one will look in vain for the "socially ambitious," for the monied ass and bore who give typical and realistic monkey dinners and receptions, without requiring a specimen of the simian family's presence. Here one may find men of character and capacity, and women of breeding, charm and sweetness. Here is where the best ideals are being fostered. Here is where the woman who rocks the cradle may some day be the power behind the throne of a son who shapes the destiny of men, either in the arts and sciences, or at the helm of the ship of state. Here is where the mother of moderate wealth, kind, devoted, sacred, pure, gathers her family around her and, inculcated by precept and example, the lessons of the Good old Book of Life so deeply upon the minds of her offspring that time and the wickedness of the world can not obliterate—in fine, she fulfills the duties God intended, while her sister, enormously wealthy, in the larger cities, unhappy, unhealthy, unproductive either of children, happiness, or anything else, gathers her crowd of friends around her, talks of the newest fads, scandal, divorces, drinks, gambles, smokes, if not nauseating, wonders why the latest beauty doctor upon whom she has spent money lavishly, can not make her beautiful, and why her husband belongs to so many clubs and sees her so little. Finally, she finds herself an old, childless woman, with no one to love her, and her husband married to some one else. She is fortunate if that is her only punishment, for woman always falls to depths that man, no matter how vile he may be, never reaches. Her nature is such as either to develop continually into a grander and better or worse woman. While man, being less influenced by the emotions and more by the will, never reaches the sublime and holy heights of woman, or the depths of sin.

4007 Magnolia Street.

[Written for the MEDICAL BRIEF.]

Vascular Health.

BY M. M. FOY, M. D.,
St. Louis, Mo.

It is an old saying that a man is as old as his arteries. If the arteries are strong and elastic, he is comparatively young, whatever his years may number. On the other hand, if his arteries are brittle and inelastic any shock may precipitate a fatality.

The vascular system, like other parts of the body, is largely under the control of the nervous system. A network of nerve fibers accompany the blood-vessels in their course, and the spine contains centers through which influences are exerted over the circulation by a variety of causes.

Normally, the arteries are constantly contracting and relaxing, as the system adjusts itself to changing conditions, and the needs of the organism for blood. So long as the vaso-motor mechanism is healthy and transmits just the right kind and degree of impulses, all goes well; but, if through any cause, it becomes weak and irritable, then the same condition which, normally, would cause slight and momentary excitement, results in spasmodic interference with the circulation, congestions, pain and impaired function.

When the vaso-motor nervous apparatus is thus weakened, the patient may suffer from severe nervous rigors, which exhaust his strength and check the normal secretions.

It is almost impossible to cure chronic chills unless we can restore the vaso-motor mechanism to a state of health. The same may be said of neuralgia, rheumatism, and various disorders of the genito-urinary organs.

The detriment to general health is seen in the frequent checks imposed upon the secretory glands. In some cases the urine is greatly diminished, and its concentration makes it very irritating. The check-

ing of the digestive secretions interferes with nutrition; the skin becomes dry and inactive, leaving poisons in the system which must find some other channel of elimination.

The vaso-motor mechanism is influenced normally by diet, exercise, atmospheric conditions, tobacco, whisky, fatigue, bad air and excitement, drains and strains of all kinds, contribute to debilitate a part of the nerve structure, the integrity of which is so vital to our welfare.

The invalid can not throw off the effects of disease unless the vascular system is restored to its normal condition. Congestions and obstructions are then removed, and the disordered functions which follow derangement of the circulation, are once more performed with ease.

In some cases the irritability of the vaso-motor centers is simply part of a general state of spinal erethism. Then the patient is kept on the borderland of nervous bankruptcy. Colds and congestions of various organs follow one another in quick succession, the motor function becomes perverted, colics and spasms of different parts are brought on by trifling causes, the patient is easily excited, yet indulgence in excitement is followed by intervals of prostration. Leaks and drains of the vital fluids occur, and, together with the loss of nerve power, impair nutrition.

These conditions should not be allowed to continue. There are remedies which will restore tone to the vaso-motor mechanism, equalizing the circulation and regulating blood-pressure, thus enabling the patient to throw off the effects of disease. There are other remedies, no less effectual, if more gradual in their action, than morphine, which will control spinal erethism, and the functional anarchy which it entails. If the Doctor will make himself acquainted with such remedies he will save many a man and woman from the morphine habit.

1100 Hamilton Avenue.

The Medical Brief strikes me as being so much more practical than most medical publications. Enclosed find one dollar for same.—P. H. Tom, M. D., Wellwood, Canada.

[Written for the Medical Brief.]

Epilepsy—A Reply to Dr. Noxon.

BY PATRICK T. MELDON,
An Experimental Medical Scientist.
San Barnardino, Cal.

See Medical Brief, January, page 51. Doctor Noxon, in stating his patient's case, says, her "general health is good in every respect." This can be so in epilepsy and yet there be manifestations of serious constitutional effect of the disease.

An epileptic patient may be in general good health and yet be of a sensitive nature, but most commonly those patients have a poor circulation, slow pulse, cool skin, and slow mental action. The former case, however, as the disease progresses, most always ends in the latter condition.

As the "attacks occur mostly during the day," it gives some idea of the best course to pursue, but it does not hold out any hope of a cure. The disease is born and fixed in this patient, and those convulsions which she had while teething, were in reality attacks of true epilepsy. It required only the maturing of the conscious mind—cerebral power—to develop them, and, therefore, the nervous excitement which the Doctor mentions was only incidental in the matter; those attacks would have developed eventually without the intervention of such an incident.

If the patient is of a sensitive, excitable nature, the case should be treated with sedatives, but I am convinced that this is not so after six years' affliction with epilepsy. After six years' duration of this disease the general sensibilities tend to be torpid, and Doctor Noxon will please state in the Brief if I am right to any extent. At least, the treatment is determined on what I judge the case to be.

Treatment.—Compel regular hours of sleep. Have the patient go to bed regularly at a certain hour at night, and be called promptly out of bed at a certain hour in the morning. Concede not more than eight and a half hours "in bed," and this alone will reduce both the number and severity of the spasms. When the patient is well-trained to regular hours of sleep, say for six months, she will be liable to spasms if detained from bed

more than a half hour after her time to retire, and the same effect will result in the daytime, if she remain in bed longer than the time she should rise.

The secret of treating true epilepsy—after a long and careful research—can be told in very few words. Stimulate the mind—cerebral power—and incite it to mental and physical action during the day and insure regular, quiet and uninterrupted sleep during the night. In that paragraph you have all that need be told of the fundamental principle on which true epilepsy should be treated. Enforcing the mental activity to any degree will lessen the spasms to the same degree.

The following prescription is fully consistent with the nature and constitutional effect of epilepsy; it has been well-tested and with excellent, good result:

℞ Powdered Cubes .....30 grains.
Tinct. Cactus.....30 drops.
Sparteine Sulphate.....2 grains.
M.:

The dose of this prescription must vary according to the nature of the case; one-fourth to one-half grain, "morning and noon," does well in the average cases, yet some patients have required one and one-half-grain doses to make any impression.

Citrated caffein acts well in the treatment of epilepsy, but it should be employed only in the well-established case, in very small doses, and be continued not more than three days at a time. In fact, the drug should be employed only very seldom, and never in the early stage. It acts best in status epilepsy, and if given promptly it will often obviate the recurring spasm.

Always prohibit an epileptic patient in the use of coffee.

An epileptic patient deserves a world of sympathy, yet at the same time never manifest your sympathy to the patient. When at all possible, rule him, as it were; masterly, but not severely. Keep him at his work with an earnest determination, and in dull or cloudy weather see that he is constantly incited to both mental and physical action. Or, in other words, the more you foster and treat the patient to indolent kindness the quicker you kill him, by allowing his disease to grow upon him.

[Written for the MEDICAL BRIEF.]

Circumcision.

BY D. A. MOHLER, M. D.,
Lake Village, Ark.

I have just read the article of Dr. Timmons, of Columbia, Tenn., replying to Dr. Scholer's article on circumcision, in a previous issue of the BRIEF. Dr. Timmons does not agree with Dr. Scholer, nor do I agree with Dr. Timmons. I have done the operation of circumcision a few times, and expect to do it again, but the idea of wholesale circumcision seems ridiculous to me. Why not just say remove all eyelids which become diseased, or which overlie diseased balls, or remove the same as a preventive? Because the eyelid protects and keeps sensitive and tender the balls, so does the prepuce serve the same purpose to the glans penis.

The sexual pleasure depends, in a great measure, upon the sensitiveness of this part. Cleanliness can be with the prepuce, which is as natural, and almost as essential, as the eyelid. There are deformities to the extent of an elongated foreskin becoming so excessive as to require amputation; then this should not be cut short enough to bare the gland more than one-third of its extent; only enough to leave the bare meatus, and a few lines back (when penis is relaxed). Then during an erection the glans penis comes out from under its natural protection, the foreskin, and allowing the individual to have a normal intercourse; while, if the glans penis is laid bare, to drag against the clothes, and become tough, it necessarily follows that the sensation is not keen and natural. Do not understand me to say that phimosis should not be relieved always, and any excess of skin removed, but there is not often any excess. Only teach your patients to keep clean, and treat herpes, and other inflammations, according to indications, and not by chopping off the membrane. To prevent or cure disease is not our only mission, but to render and preserve, as nearly as possible, complete physiological functions. Do not lose sight of one necessity while considering the other.

[Written for the MEDICAL BRIEF.]

Circumcision.

BY S. L. KILMER, M. D.,
South Bend, Ind.

With your permission I desire to make a few suggestions on the article by Dr. Suggett, in your December number, on "Circumcision."

The Doctor does not state the conditions for which he considers the operation, as he describes it, advisable, but, in my judgment, there are very seldom conditions justifying the operation in the manner and to the extent of tissue removed which it appears to me he sanctions in the essay.

The simplicity and ease with which it can be performed tends to make this a very frequent operation, so that it is abused nearly as much as the operation of appendectomy by those who think that every person with a pain in any region of his abdomen is a proper subject for the removal of the appendix, so that the operation for appendicitis has become a curse rather than a blessing to the race, as there are, doubtless, more fatalities in the aggregate now as the result of the operation of appendectomy, in all kinds and degrees of diagnosis, correct and incorrect, and all kinds of operators, capable and incapable, than there would be if none of the supposed cases were operated upon, or than there were prior to the date of appendectomies. This statement will, doubtless, be disputed by some, but, be it observed, I say *in the aggregate.* In the hands of the best operators this statement would be perhaps, an exaggeration, but even they lose patients, not so very infrequently, upon whom the operation is performed early, and some of the patients so lost, it is reasonable to suppose, would have recovered had there been no operation. Errors in diagnosis continue to be made, and one serious objection to the heroic theory of immediate operation in every case of *suspected* appendicitis (I came near saying before the recovery of the patient prevents the operation) is that there is often insufficient time given to form an accurate diagnosis, and thus not very infrequently patients are operated upon where the diagnosis of appendicitis is erroneous, and the operation detrimental to the patient.

But to return to circumcision. The sight of a prepuce unfortunately appears to stimulate the energies and ambitions of some surgeons, whose idea appears to be that wherever there is a prepuce there is need of an operation for its removal, forgetful of the fact that a prepuce is a normal attribute of man, and has useful functions to perform.

The last sentence of Dr. Suggett's essay, viz: "The glans, which is naturally sensitive after removal of the foreskin," is correct, and is a positive indication of the injustice of the removal of the foreskin in ordinary cases, and proves that an effort should always be made to avoid exposure of any more of the glans than is absolutely necessary for the conditions peculiar to each particular case.

The sensitiveness of the glans is a normal condition, and an essential one, and the prepuce is provided by Nature for the protection of the sensitive glans, and instead of destroying natural conditions it is the duty of the surgeon to do all he can to conserve them in a normal state. The Doctor says the glans "may be protected for a few days with a silk or soft linen handkerchief." Even so, the protection thus offered is a poor substitute for the protection of Nature, which should not have been removed to the extent requiring an artificial substitute.

The Doctor's instructions to make the markings, indicating the amount to be removed, "when the penis is flaccid," are injudicious, as he thus uncovers the glans and leaves it subject to the irritation of the clothing; while were the markings made when the organ is in a state of erection, and at which time it does not usually require the preputial covering, enough would most likely be left to protect the glans "when the penis is flaccid," and does need it.

It has been my fortune to witness the misfortune of several children whose foreskins had been removed by zealous circumcisers of our profession, as well as by those who have removed them as a scriptural rite, and whose sensitive glans were so irritated by contact with the clothing as to make their condition truly pitiable, twitching and squirming as though they

were afflicted with chorea, and such conditions had prevailed for years, and the glans were still sensitive.

The foreskin should not be removed to such an extent as to uncover the glans when the penis is flaccid. In case of excessive redundancy that portion extending beyond the extremity of the penis may be removed, the membrane split just far enough upward to remove the constriction of the prepuce, if any exist, and enable it to glide easily and loosely over the glans, a few stitches inserted to neatly coapt the raw surfaces or edges of the preputial wound, and the operation is completed.

It has been my experience that in adults it is very seldom necessary to remove any portion of the prepuce. All that is usually required is to slit or split the entire thickness of the prepuce for from one-fourth to one-half an inch on the dorsum to remove the constriction mentioned, in case it exists, and provide for free play of the prepuce over the glans, and put in a few stitches to coapt the skin and membrane along the raw edges of the wound.

It is surprising to note how small a notch remains after a few weeks as the result of such operation, generally none at all, as the line of incision on each side becomes continuous with the border of the prepuce, so that to find any notch left it is necessary to search for it. In case of doubt it might be proper to remove a little of the angles or corners produced before inserting the stitches.

This slight operation is ample to provide opportunities for maintaining cleanliness, while at the same time it leaves the sensitive glans with its natural protective covering, and is all that is usually required.

The apparent redundant and excessive prepuce incident to childhood will, by the time of adolescence, have disappeared in the majority of cases, and is, doubtless, thus provided by Nature in what appears excessive amount for practical and beneficial purposes during the indiscretion and susceptible conditions of childhood.

In those cases in which the urinary canal, through the elongated prepuce, is so narrow that it is difficult for the child to urinate through it something should be done, but even in those cases the removal of a very small part of the prepuce, if any, and enough slitting to enlarge the canal and orifice, as above indicated, and a few stitches, is all that is necessary. This provides ample room for micturition, cleanliness, and freedom from adhesions between the glans and preputial surface, and permits the glans to retain its natural protective covering, and thus preventing it from becoming "sensitive after removal of the foreskin," requiring an artificial covering to replace that of which it has been unjustly despoiled.

[Written for the MEDICAL BRIEF.]

Scarlet Fever and Small Pox.

BY H. A. FIESTER, M. D.,
Newton Falls, O.

I wish to report a case that perhaps may be of some interest to the readers of the MEDICAL BRIEF. Helen H., age eleven, was taken sick September 24, 1902, with scarlet fever. The eruption was quite uniform and well marked. There were no serious complications marking the course of the disease. She was doing nicely; dressed and played on the piano, but still confined to her room with the nurse, Miss Anna Robinson, of Cleveland, Ohio, when, lo and behold, she again became very sick. Soon an eruption appeared, covering the entire cutaneous surface from head to foot. She now felt better. Papules first appeared, soon giving away to vesicles circular in form, flattened, well depressed in center and surrounded by very much inflamed bases.

The nurse counted seventy-two pustules on one hand and wrist. She also counted twenty pustules upon the sole of one foot and twelve upon the sole of the other foot. The palms of her hands were also covered with the eruption; the eruption coming out in a single crop, *i. e.*, staying out during the course of the disease. On the evening of October 16, I was called in when a decided change seemed to have come over our little patient. Face was swollen, eyes puffed, delirious, could not breathe through her nose, glands of neck much swollen, could not bear the light at all. This was the only time that I really

where Nature, conditioned by physical laws in her organized labors, is compelled to enter the made-up forms and combinations placed in her course, and endow them with life, as long as they comply with the rules and regulations of her system.

Hence, being mere projections of man's constructive imagination, these hybrids, in all their wondrous characterizations, are largely self-dependent growths, isolated in a measure from natural relations, and require the constant assistance of artificial environments to sustain their evolution. "Brilliant, large-flowered, orange-red perennial poppy—magnificent hybrids—were nearly all sterile," remarks Professor Hugo de Vries, in a description of Burbank's wonder gardens. "Some of them terminated in a dried-up stub without flowers, others had a minute rudiment of fruit, others only remnants of calyx and cordella." The evolutionary life-current, rendered convulsive by the temporary tributaries, which, in the forms of wide-reaching selections and repeated crossings, are emptied in its flow, asserts its cumulative vigor in the drastic and unique animation of the complex structures placed in its course. But when the tributaries have exhausted their supply the life current reassumes its normal momentum, and the forms farthest projected from their biologic basis lose their vital coherency and fall back into the old lines of evolution. For man can combine, construct and direct, but not *create*. The driving impulse of growth—life—while yielding to man's manipulations, has still its source outside the scope of his powers.

These facts, however, do not militate against the powerful influence man holds over Nature, and her evolutionary output. The life-history of the potato, orange, apple, tomato, and other genera reveal primogenitors of the lowest biologic character—small, often poisonous, and utterly invaluable as foodstuffs. Through his powers of thought and reason man discovers the laws and principles back of growth, and by increasing in the various entities of Nature their powers of response to life, a corresponding increase of momentum is added to their evolution. But while man thus wields the power to render himself a conscious agent in evolution, he, on the other hand, is himself depending for its growth on the response or reciprocity he offers to impulses of that same evolution. Consequently our Loebs and Burbanks, while admirable craftsmen in the building trade of life, are—we must reiterate it—by no means its creators. They design, combine, and adjust, but the operative material is already at their disposal, and their designs and plans are acceptable only to the extent their execution falls in line with the eternal laws and principles back of life and growth.

Man deals with life, but is himself dealt with. A force among other forces, he is at once acting and acted upon; at once adjusting and adjusted. Without deprecating the enormous influence held by *homo sapiens* in evolution, it may, nevertheless, be reasonably questioned whether man has power to create a force—the vital force—of which he himself is a form and an expression.

And what has been said about the character and meaning of the ingenious labors proceeding in the biological laboratory at Pacific Grove is in no way less applicable to the experimentation going on at the Cavendish Laboratory, Cambridge. The "radiobes" of John Butler Burke do not more expose the ultimate origin and nature of life than the spermless fertilization of the eggs of Dr. Loeb's sea-urchins. These savants have simply sunk their field of experimentalism to deeper shafts of existence, where they are able to view the vital processes of existence on a closer range.

Critics of the Cavendish experiments set forth the seeming unreasonableness of eliciting life through a process in which the generative agent—radium—is in itself fundamentally hostile to every expression and form of life. This criticism, however, has meaning only as far as it is leveled against the claim of a *creation* of life; while, as a means leading to a deeper knowledge of life, radium undoubtedly has an extraordinary scientific value. If evolution means the unfoldment of form under the pressure of an interior, self-assertive energy, then the entire biologic image has its basis and philosophy in a continuous splitting process of elemental substances, subverting the unity of essence into a variety of appearance. A

fountain of universal existence, evolution, through its biologic output, reveals the scope and character of the forces at work in its vital current. And as the force, active in the fountain, by overcoming the resistance and friction of opposing environments, sends the liquid masses into mid-air as towering columns of an ever-unstable equilibrium, is not caused by, nor inherent in, the water itself, but in the influence of the surrounding atmospheric pressure, so, likewise, back of the protoplasmic stream—a veritable fountain of life—moves the silent, invisible essence of life itself, lifting the whole sliding scale of elemental and organic structures up to ever-higher altitudes of evolutionary fitness.

The pursuit of life as an elementary expression must, therefore, logically lead through a breaking up of forms into compounds of increasing simplicity, *i. e.*, from diversity back into unity, a process in which the dissolution of one form of life prepares conditions and environments for the setting free of others interior, and hitherto unsuspected forms and energies of life. For is it not an already fairly-established fact that radium itself is such a new form, liberated by the disintegrating processes of *uranium*? The destructive quality observed in the influence of radium upon its environments, merely reveals the slow, almost directly perceptible action of life on these deeps of unexplored, because of largely non-evolved existence, where the simplicity of structure and crudity of substance necessitates this slow momentum of the life-force. Hence the "radiobes" developed in the sterilized gelatin-culture of Mr. Burke's test-tubes, are a logical outcome of natural evolution traced back along its initiatory stages. But the phenomenon while new to science, is not new in itself, and life *per se* antedates these primitive forms as far as the sun antedates the light of a tallow candle.

Directly or indirectly, consciously or unconsciously, this feverish chase after the origin and nature of life animates every aspect of modern science. In the wonderful achievement in artificial nerve-anastomosis, as great a step has been taken towards a rational appreciation of the phenomenon of life, as was ever advanced through researches in biology and radio energy. For what is the triumphs achieved by modern surgery in restoring to ruptured nerve centra their power of normal functioning by substituting injured nerve fibres with sound ones, but the action of the same principle of artificial conduction by which Dr. Loeb succeeds in inviting the vital current in his parthenogenesis over new paths of action? When, Dr. Kennedy, of Glasgow, who, some time ago succeeded in curing facial spasm by dividing the proximal end of the *facial* nerve and anastomosing its distal end with a branch of the *spinal accessory*, he did not "create" a new vital force for the occasion, but simply established a structural connection over which this force could transmit its vital message without the interruption of a diseased nerve fiber. Like water, light, electricity, or any other known or unknown force, life in itself is eternally intact, while its modes of manifestation, and the degree of functional response in the engaged organism depend on the media of transit. Whether appreciated as nerve force, vital-energy, mental power, chemical agents, or any aspect of growth or power, they are all expressions of the same eternal, undifferentiated world dynamic, imparting motion and consciousness to substance in terms of vegetation, animation or cerebration.

But to trace the course and genesis of an energy at once timeless, spaceless and measureless, must naturally involve the operation of some other agency than the magnifying lens and dissecting knife. For as the measurement, for instance, of the wheels and levers in a machine, and the calculation of their time of revolution, etc., however accurately carried out, will never reveal to the student the nature of the motor power back of the motion, and still less the nature of the engineering intelligence back of the motor power, so the study of life, to be intelligent and meaningful must require something besides the mere observation or experimentation of its molecular and transitional mechanism. Intangible to its nature, life requires for its realization the engagement of faculties and powers belonging to a different sphere of intelligence than the merely calculative and analytic. For, while the purely mechanical or structural phases of existence —the *forms* of life—can be rendered in-

and pronounced these cases small-pox. One of his diagnostic points is an enlarged spleen. Would like to hear of the experiences of others along this line.

[Written for the MEDICAL BRIEF.]

Doctors—A Plea for Justice.

BY G. W. BOWEN, M. D.,
Fort Wayne, Ind.

Ready to list to a tale of woe,
Ready and willing to ever go;
E'en where the face may be blanched with fear,
And eyes be dimm'd by the gather'd tear,
Dangers to dare.
What if he meets with a tainted breath,
Scatter'd abroad by the demon Death,
He must battle give and strive to save
Some loving one from a waiting grave,
Fearless of care.

Where hearts beat fast, and the sobbing wail
Echoes abroad as a mournful tale,
While the shaded gloom but serves to shield
Dangers away from the sorrow'd field
With chastened tread.
There must he go, and the contest dare,
Some one for earth to yet longer spare;
Bat'ling with forces that come by stealth
To shorten a life or ruin health
Nor dangers dread.

But what to this is the martial field,
Where only physical forces yield:
Where with roaring blast and music's blare
Brave men with men can their courage share,
And fame may know.
Even though distant the danger lays,
And tides may turn with a bursting blase,
With only a few brief hours to fly,
And victory comes, though many die
In glories glow.

Those who are spared will its honor share,
And freed he ever from coming care,
With medals to gleam and flash the ray,
All for the risk of a single day,
And fame's trump peal;
But who stops to think or even dream
Of him who would dare to stay the stream
Of an ebbing life, that fain must go
When danger comes as a hidden foe,
And dangers feel!

And why should he not who lives may save,
Some of the honors in justice crave,
Is it not better a life to shield
Than slaughter bring on a martial field
In honor's name?
Let reason decide and methods plan
To honor the brave and daring man
Who goes where danger may lurk and breed,
At the calls for aid and in hours of need,
Not seeking fame.

[Written for the MEDICAL BRIEF.]

Free Will Versus Heredity and Environment.

BY REV. J. A. DEWE,
St. Paul, Minn.

There are certain ages in which the supernatural or Divine elements alone occupy the attention of men. This is especially true of the Middle Ages, in which the direct intervention of God and His saints was recognized at almost every turn, and miracles seemed to enter as part of the ordinary course of things; but in these later times the natural seems to predominate, to the exclusion of everything that can not be viewed with the lens of scientific research.

And nowhere, perhaps, is this tendency more unmistakably shown than with regard to the moral responsibility of the individual. It tends to reduce everything to a mere question of heredity and environment.

The present writer has had the advantage of making, together with a very able doctor, a disciple of Dr. Clouston, the celebrated expert in mental diseases, a series of researches into this matter, considering it both in its physiological and moral aspect.

The question before us is: How far does the physical element in man circumscribe the moral power of his will? For the sake of clearness, we may consider the question under three different phases: (1) The influence exerted by man's own physical constitution; (2) the influence exerted by the physical constitution of his ancestors, and (3) the influence exerted by environment, or surrounding circumstances.

The enormous part that physical nature has, in determining the moral bent of a man's will, is clearly and rapidly brought into focus by the fact that there are men who have for years been leading honest, steady and sober lives, but who suddenly, without any apparent cause and without any apparent mental aberration, have thrown off all restraints, committed the most unheard-of excesses, and then, by means of judicious medical treatment, have been, with almost equal suddenness, brought round again to their former state

of equilibrium. That there are such cases is indisputable, and they are a source of sorrow and shame to friends and relatives, who are sometimes at a loss to understand what has been, at least in part, the working cause that brought about this calamity. So far for what medical experience has to say about that matter. If we now consult the other side, we hear a celebrated spiritual writer affirming that it is possible for a soul, hitherto apparently pious and good, in a short time —in the space of a few weeks—to find itself in a state of mortal sickness, almost without knowing, or being at all aware of, the change that has so insensibly come over him. The causes that he assigns are some secret defect or sin—perhaps pride, or self-indulgence, or some little habit of dissipation. This also, of course, corresponds with St. Paul's dictum: "Let him that thinketh he standeth take heed lest he fall." Here we have a state of sudden, almost unconscious, moral depravity, recognized both by medical and spiritual experts. In order that we may decide whether this phenomenon be purely physical or spiritual, or both one and the other together, we must consider the causes that lead up to it. The spiritual writer assigns, as we have already said, spiritual causes, and the connection between them and the effect seems clear; for pride, and such-like defects of character, can sometimes produce most startling consequences, as is shown in the history of the Church. It is also easy to see how pride can induce a fall by causing too great self-reliance, and too little trust in the advice of others. But there is something, also, to be said on the physiological side. Setting aside the fact that similar cases occur very often, if not always, in children of insane, or drunken, or neurotic parents, there is also the actual morbid derangement of the brain that usually accompanies such perturbations and diseased processes when they manifest themselves.

It would be interesting to ask which cause it was that first set things going wrong: but, as most of the first causes in spiritual or physical maladies are usually minute, it would be very difficult to find a satisfactory answer. There is, no doubt, however, but that in the early beginning free will has sufficient force either to stop, or mitigate, the progress of the diseased phenomena, and that, step by step, the physical acts on the spiritual, and the spiritual, again, reacting on the physical, indirectly affecting the brain and nervous structure.

Another and more signal instance of how the material structure of the body affects the moral character and life of a man, is to be found in the constant union there is between certain structural formations of the body, and the development of certain moral qualities. A certain German physician has already shown that classes of criminals have a typical formation of skull, and asserts that he can, by examination of the skull, discover what particular class of criminal each one belonged to. But a proof still more stringent, one which, indeed, is absolutely irrefragable, is that in the Edinburgh Asylum statistics show that, in each of the three great divisions of minds, the sane, the insane, and the neurotic, there is a distinct difference of shape in the palate, an extremely oval and irregular shape being the characteristic of the insane and most hopeless cases.

Now, according to spiritual authors, such physical malformations are to be attributable either to original sin, transmitted through the man's ancestry by which, according to the Council of Trent, man's nature, including also his body, was degraded; or to actual sin, which by degrees stamps its impress upon the countenance, and alters the intimate structures of the body, thereby causing a reaction for evil, even in the soul itself. And, indeed, after a long course of sin, the soul, in the natural order of things, seems unable to right itself. The cause of this is undoubtedly, considered in its immediate effects, physical, and harmonizes with that awful saying, that God sometimes closes the ears of the sinner that he may not hear, and shuts his eyes that he may not see. Thus, we see that the same phenomenon is noticed by both medical and spiritual writers, namely, that the sinner very often reduces himself to such a state that amelioration is, humanly speaking, impossible. I say humanly speaking, for grace, as in the case of Magdalen and the

penitent thief, can intervene, and the guilty countenance can gradually become transformed with the mildness of penitence, and the beauty of a soul once again restored to the Divine favor; and the fact that after thirty or forty years such conversions do take place is a signal proof of the intervention of a Divine element.

The Action of Environment Upon Morality.—We now come to the second material element that largely contributes to the formation of the moral character, and that is, the external surroundings through which flows the current of a man's life. Moralists themselves recognize the importance of avoiding the occasions of sin; that is, of changing one's environment. This, by the way, shows how even mere speculative theologians sometimes come down *de nubibus*, and recognize the importance of prescribing natural, as well as supernatural, remedies for the ills of man. But the general truth has still to be recognized, that these same surroundings affect the moral health of man, not only directly, as in the proximate occasions of sin, but also indirectly. (Persons who are wedded to prejudices will, perhaps, say that I am laying too much importance on the natural element, to the exclusion of the grace of God; but what I am striving to do is to prevent the action of natural causes being lost sight of altogether.)

Facts are stubborn things, and in the lives of the saints, as well as in the lessons of the breviary, we find that the canonized saints were almost invariably born of honest and pious parents, and brought up carefully in the midst of pious associations. The exceptions are very rare, indeed. Let us turn to the converse side and contemplate the spectacle of a London child "suckled on gin and born into eternal damnation;" that is to say, surrounded by every stimulant to evil; and we shall find that in many cases the child grows up to a bad manhood or womanhood.

It is this which prompts so many unbelievers to exclaim against the justice of God; but the answer is always forthcoming, that although the free will is in such circumstances greatly limited, still they make good use of what little they have, and if found faithful with their two talents, may still hear the words of praise. No one was ever yet in hell except entirely through his own fault, and men will not be punished, except so far as they were truly and really responsible.

The two concurrent, historic facts, however, that good people generally spring up among good surroundings, and bad people among bad surroundings, are sufficient to bear out the practical importance of a good environment.

One thing has to be borne in mind, that in this matter it is the social surrounding that makes the substantial difference in inclining for good or ill, the natural bent of a man's will. The old Greek argument that, because a certain race of people inhabited a flat, marshy district, therefore they were dull and apathetic, is a sophism, "*post hoc ergo propter hoc.*" That such is not the case is amply borne out by the fact that, in London itself, there are streets and special quarters inhabited by either good or bad people. It is not the material surroundings that we have to consider, so much as the old adage that, "birds of a feather flock together."

It seems to me that it is this principle, or, rather, the forgetfulness of it, which accounts for the partial failure that attends our reformatories and homes for inebriates. While it is perfectly true that, being under mechanical restraint, they can not do anything outwardly wrong, yet we seldom see any true inward reformation. As an extreme typical case, there is the man who was confined seventeen years in a home, during which time he did not taste a drop of drink. At the expiration of that period the manager, thinking the case cured, allowed him to go out, and the first thing the patient did was to enter a public house, where he got himself into a worse state than ever he was in before. The material surroundings, the restraint and outward decorum, may, indeed, conduce to a temporary outward amelioration, but the social surroundings, the company, remain the same. It is from the heart that there springs up evil desires, murders, fornications, says the Divine Master, and the heart of man is affected principally by the words one is constantly hearing, by the actions and general character of those

with whom one is coming into constant and daily contact.

We are now brought face to face with a most important question, namely, the relation that exists between a man's environment, or external surroundings, and the greater or less scope that is allowed thereby to his free will. At the very outset, it is easy to point out a very great difference between this and what, by looking at fact, we are forced to admit regarding the influence which the physical structure of the body exercises upon free will. For the plain truth is, that a man's environment depends even at an early age upon his free will. If a man lives amid bad surroundings, frequents vicious resorts, increases bad and unlawful desires by conversing with kindred spirits, it is because he chooses to do so. Thus, while environment, according to the generally accepted opinion of scientists, does influence a man's conduct, we must also assert with the theologians that this very environment depends, in very great part, if not altogether, upon the spontaneous inclination and choice of the person concerned.

The great task is to choose that career in life, to elect those surroundings, that are most conducive to our spiritual health. For this, both a good will and proper discernment are necessary. Marvellous, indeed, are the workings of the human heart, even at the tenderest age. In children of eight or nine years of age are found qualities of the most opposite kind, the highest aims and aspirations, combined with the most infamous desires. Sometimes there is to be found a wonderful energy of will, with an almost total obscurity of intellect, and in other cases great powers of mental sight, but not one poor ray of light seems to descend upon and stimulate into action the feeble and placid wills. Amidst this confusion, which we may call, in the words of St. Paul, the "mystery of iniquity," how important it is to choose those surroundings that may happily meet our own internal disposition.

Here we can not but admire the wisdom of the Catholic Church which, from the earliest ages, has made the confessional the grand means of education. The child opens his inmost soul to a man who has spent years in acquiring the art of guiding souls, and who is not allowed to exercise that art until, by a searching examination, he has given signal proofs of his capacity in that respect. The consequence is, that the child acquires a very likely chance of obtaining what, otherwise, he would never have been able to obtain for himself, namely, a suitable environment. How many young men are ruined at the beginning of their career, because some quality of a fatal kind, hitherto quite unsuspected, suddenly blazed forth, and destroyed in a brief space the fond hopes of parents and friends!

In after life the choice of living among suitable surroundings rests mainly upon the free will of a man, and there are many who, in imitation of the prodigal son, leave, of their own choice, the environment of the piggery, and betake themselves back again to their Father's home. It is a recognition of the same principle that induces so many in the Catholic religion to leave the dangers of the world, and hie to the seclusion and good influences of the cloister. But, apart from these typical and prominent cases, it is always possible for a man in a low state of moral health to better himself by changing his surroundings, thus securing for himself a more suitable environment.

The Influence of Heredity Upon the Moral Character.—The very first point of view where theologians and modern scientists are, though perhaps unconsciously, perfectly agreed, is the doctrine of original sin, or, that a certain moral perversion is transmitted by heredity from generation to generation. There is no person exempt from this consequence of heredity, though in different persons it assumes different forms, and has different degrees of strength. In addition to this, theologians, also, concur with scientists that the disposition of the proximate parent of the child has also a very great influence in determining its moral bent, more especially during the few months of pregnancy, when the soul of the mother comes into such close and mysterious union with the soul of the child.

It would seem, at first sight, that the moral will of a man must inevitably be

ing of the digestive secretions interferes with nutrition; the skin becomes dry and inactive, leaving poisons in the system which must find some other channel of elimination.

The vaso-motor mechanism is influenced normally by diet, exercise, atmospheric conditions, tobacco, whisky, fatigue, bad air and excitement, drains and strains of all kinds, contribute to debilitate a part of the nerve structure, the integrity of which is so vital to our welfare.

The invalid can not throw off the effects of disease unless the vascular system is restored to its normal condition. Congestions and obstructions are then removed, and the disordered functions which follow derangement of the circulation, are once more performed with ease.

In some cases the irritability of the vaso-motor centers is simply part of a general state of spinal erethism. Then the patient is kept on the borderland of nervous bankruptcy. Colds and congestions of various organs follow one another in quick succession, the motor function becomes perverted, colics and spasms of different parts are brought on by trifling causes, the patient is easily excited, yet indulgence in excitement is followed by intervals of prostration. Leaks and drains of the vital fluids occur, and, together with the loss of nerve power, impair nutrition.

These conditions should not be allowed to continue. There are remedies which will restore tone to the vaso-motor mechanism, equalizing the circulation and regulating blood-pressure, thus enabling the patient to throw off the effects of disease. There are other remedies, no less effectual, if more gradual in their action, than morphine, which will control spinal erethism, and the functional anarchy which it entails. If the Doctor will make himself acquainted with such remedies he will save many a man and woman from the morphine habit.

1100 Hamilton Avenue.

The MEDICAL BRIEF strikes me as being so much more practical than most medical publications. Enclosed find one dollar for same.—P. H. TOM, M. D., Wellwood, Canada.

[Written for the MEDICAL BRIEF.]

Epilepsy—A Reply to Dr. Noxon.

BY PATRICK T. MELDON,

An Experimental Medical Scientist.
San Barnardino, Cal.

See MEDICAL BRIEF, January, page 51. Doctor Noxon, in stating his patient's case, says, her "general health is good in every respect." This can be so in epilepsy and yet there be manifestations of serious constitutional effect of the disease.

An epileptic patient may be in general good health and yet be of a sensitive nature, but most commonly those patients have a poor circulation, slow pulse, cool skin, and slow mental action. The former case, however, as the disease progresses, most always ends in the latter condition.

As the "attacks occur mostly during the day," it gives some idea of the best course to pursue, but it does not hold out any hope of a cure. The disease is born and fixed in this patient, and those convulsions which she had while teething, were in reality attacks of true epilepsy. It required only the maturing of the conscious mind—cerebral power—to develop them, and, therefore, the nervous excitement which the Doctor mentions was only incidental in the matter; those attacks would have developed eventually without the intervention of such an incident.

If the patient is of a sensitive, excitable nature, the case should be treated with sedatives, but I am convinced that this is not so after six years' affliction with epilepsy. After six years' duration of this disease the general sensibilities tend to be torpid, and Doctor Noxon will please state in the BRIEF if I am right to any extent. At least, the treatment is determined on what I judge the case to be.

Treatment.—Compel regular hours of sleep. Have the patient go to bed regularly at a certain hour at night, and be called promptly out of bed at a certain hour in the morning. Concede not more than eight and a half hours "in bed," and this alone will reduce both the number and severity of the spasms. When the patient is well-trained to regular hours of sleep, say for six months, she will be liable to spasms if detained from bed

more than a half hour after her time to retire, and the same effect will result in the daytime, if she remain in bed longer than the time she should rise.

The secret of treating true epilepsy—after a long and careful research—can be told in very few words. Stimulate the mind—cerebral power—and incite it to mental and physical action during the day and insure regular, quiet and uninterrupted sleep during the night. In that paragraph you have all that need be told of the fundamental principle on which true epilepsy should be treated. Enforcing the mental activity to any degree will lessen the spasms to the same degree.

The following prescription is fully consistent with the nature and constitutional effect of epilepsy; it has been well-tested and with excellent, good result:

℞ Powdered Cubes .....30 grains.
Tinct. Cactus.....30 drops.
Sparteine Sulphate.....2 grains.
M.:

The dose of this prescription must vary according to the nature of the case; one-fourth to one-half grain, "morning and noon," does well in the average cases, yet some patients have required one and one-half-grain doses to make any impression.

Citrated caffein acts well in the treatment of epilepsy, but it should be employed only in the well-established case, in very small doses, and be continued not more than three days at a time. In fact, the drug should be employed only very seldom, and never in the early stage. It acts best in status epilepsy, and if given promptly it will often obviate the recurring spasm.

Always prohibit an epileptic patient in the use of coffee.

An epileptic patient deserves a world of sympathy, yet at the same time never manifest your sympathy to the patient. When at all possible, rule him, as it were; masterly, but not severely. Keep him at his work with an earnest determination, and in dull or cloudy weather see that he is constantly incited to both mental and physical action. Or, in other words, the more you foster and treat the patient to indolent kindness the quicker you kill him, by allowing his disease to grow upon him.

[Written for the MEDICAL BRIEF.]

Circumcision.

BY D. A. MOHLER, M. D.,
Lake Village, Ark.

I have just read the article of Dr. Timmons, of Columbia, Tenn., replying to Dr. Scholer's article on circumcision, in a previous issue of the BRIEF. Dr. Timmons does not agree with Dr. Scholer, nor do I agree with Dr. Timmons. I have done the operation of circumcision a few times, and expect to do it again, but the idea of wholesale circumcision seems ridiculous to me. Why not just say remove all eyelids which become diseased, or which overlie diseased balls, or remove the same as a preventive? Because the eyelid protects and keeps sensitive and tender the balls, so does the prepuce serve the same purpose to the glans penis.

The sexual pleasure depends, in a great measure, upon the sensitiveness of this part. Cleanliness can be with the prepuce, which is as natural, and almost as essential, as the eyelid. There are deformities to the extent of an elongated foreskin becoming so excessive as to require amputation; then this should not be cut short enough to bare the gland more than one-third of its extent; only enough to leave the bare meatus, and a few lines back (when penis is relaxed). Then during an erection the glans penis comes out from under its natural protection, the foreskin, and allowing the individual to have a normal intercourse; while, if the glans penis is laid bare, to drag against the clothes, and become tough, it necessarily follows that the sensation is not keen and natural. Do not understand me to say that phimosis should not be relieved always, and any excess of skin removed, but there is not often any excess. Only teach your patients to keep clean, and treat herpes, and other inflammations, according to indications, and not by chopping off the membrane. To prevent or cure disease is not our only mission, but to render and preserve, as nearly as possible, complete physiological functions. Do not lose sight of one necessity while considering the other.

fling us back into the puny futility of mere humanity.

Bacteriology, in itself, is all right, but its relation to disease is purely speculative—as yet. We do not *know*, for instance, that the Klebs-Loefler microbe is not merely a deformed native, so deformed by disease process. We do not know that "pure" cultures are absolutely pure. This microbe, being a scavenger, perhaps, has fed on the toxic principle and, besides, is supersaturated with it. What mechanical delicacy shall so nearly reach infinity as to clean this mite of adventitious toxicity? As a matter of fact, if this micro-organism, with its belongings, be inducted into the circulation, it may convey the disease, *it* being innocent. It is not inconceivable that there are pathogenic microbes whose dejecta are toxic, but it is not yet proven. That disease is transmitted through bacteria is still an assumption, it is not a fixed fact.

What more natural—after accepting the assumption as a fact—than to take the cue from the putative efficacy of vaccination, and inaugurate serum therapy? And this is all right. The effort to substitute therapeutic definiteness for clinical haphazzardism is forever to be commended, and we should hold up the hands of these experimenters as long as they keep within sane limits. They are not doing this, and, fatuously enough, they are permitting the martinetism of over-conviction and perfervid zeal to carry them to extremes which contradict and nullify all the germ-theory conclusions.

Bacteriological facts, as construed by these extremists, require that almost every disease shall be voraciously and implacably contagious. It is a fact that if a microbe can be found that is peculiar to corns, these must be listed among the contagious diseases. It is a lugubrious fact, too, that little discrimination is displayed with reference to degrees of contagiousness. All ailments seem to be about equally contagious.

The ludicrous extremes to which this bacteriological theory of contagion has carried health boards would be unbelievable if they were not in such pitiful evidence. Recall the monstrous hardships to which the people have been subjected by irrational quarantine restrictions. Think of one State quarantining against another! The theory requires that every one who handles money, *i. e.*, everybody, is in constant danger of contagion. Think of the frightful peril of the bank teller, the librarian, the rag-picker and paper-maker, the second-hand dealer, etc., etc. Think of the danger of being on the street where you may inhale a puff of dust containing desiccated tubercular sputa, etc. Think, even, of the danger of inter-sexual love, in which passional assertiveness drives the reckless lover into osculation. But, above all, think of the danger of the doctor, who is constantly directly exposed to contagious diseases! If it is a wonder that any person is living, is it not a special wonder that there is a doctor left on earth? And see how this contagiophobia confirms the superstition, prevalent in the lower classes, that the doctor has a way—a secret way—of immunizing himself. He keeps his method secret for a business reason—the doctor—who represents the most self-abnegating class of people on earth.

It is perfectly conservative and safe to say that disease is not more than one-twentieth as contagious as our health boards represent it to be. Every man on every health board—if he is a competent physician—knows that practical facts flatly contradict the theory to which he is subscribing. It results that either these facts are not facts, or that the theory is false. Every one with a forehead an inch high knows that these facts *are* facts. All this abuse comes from kneeling to closeted authority, from deferring to the edicts and dicta of the doddering doctrinaire. Therefore, these zealots substitute the bacteriological *should* for the practical and matter of fact *is*. If the evil of this recoiled on themselves only it would not be so bad, but they utilize their official authority to force it upon the whole people.

The average layman's fear of contagion was always great enough in all conscience. Now, all who have not laughed themselves out of it over the microbic quips of the funny paragrapher, are in a white tremble whenever any ordinary form of sickness is prevalent. Last week there was a case of pneumonia on one of our streets. Three women within three days called in my office to inquire if it were dangerous to walk down that street, pro-

vided they kept on the opposite side of the street. In the shameless depths of my naive profligacy I assured them that there was not any danger. This excessive fear makes an easy prey of one and helps greatly in the propagation of an epidemic. It is even transferred from parents to children, for it is contagious. The child's susceptibility to the prevalent (or any other) disease is thus greatly increased. Thus incalculable harm results from contagiophobia outside of the cringing cravenism it begets. Is it not time to call a halt on this precipitous madness?

Recent investigations and experimentations have resulted in one great good. Starting with Lister, and receiving confirmation from these same bacteriologists, the importance of antisepsis has been established. Antisepsis is good, but asepsis is at least sixteen times as good, for is not an ounce of prevention worth a pound of cure?

The ultimate fact in this relation is asepsis, and antisepsis is justified only in so far as it secures asepsis. To antisepticize the bowels, for instance, is only to asepticize them, *i. e.*, get them ready for curative treatment. For instance, we can not hope to cure a case of "summer complaint" with a mere antiseptic treatment, for the septic condition in these cases is a disease effect, not a disease. A little symptom-whackery is temporarily tolerable in these cases, that is all. Only causal treatment is therapeutically correct. The way may be prepared for this—in this class of cases—either mechanically, as by a dose of castor oil; or chemically, as by the use of an antiseptic. Sepsis is not the cause of summer (or other) diarrheas, the cause is always indigestion. After accumulated fermentative or septic material has been removed, then the stomach and bowels are ready for causal treatment, which consists almost entirely in feeding the patient only such food as he can digest. By doing this you are removing the cause—indigestion—and only causal treatment is curative treatment.

It would seem that the principle of asepsis is the basic fact of all cure. Clean up, remove all dirt (matter out of place), *i. e.*, all obstructions, and the reparative forces will attend to all the rest—generally. If this is, somewhat, a digression I have ventured to hope the reader will feel that it is pardonable.

One of the most calamitous facts of medical bacteriology is the necessity —required by its nice exactions—of denying heredity in its relation to disease tendency. Thus, the transmission of the tubercular taint is denied. This touches the limit of ridiculous possibility. Heredity is the very bole of vegetable and animal being. Without it, there is nothing. In fact, human propagation is but a refined mode of fission. We are each of us "an omnibus loaded full of our ancestors." What would the stock-breeder do without heredity? What makes the benefits of crossing possible, but heredity? What else so confirms a physician's suspicion of incipient phthisis in a given case, as a history of consumption in the family? The facts in this case, as in the case of excessive contagiousness, directly contradict this absurd hypothesis. Which shall stand, these fixed and unshakable facts or the nebulous theory?

Good has been evolved from germ-theory studies and experiments, but so has evil—contagiophobia, non-heredity, fallacy, and much (all?) of serum therapy. Let it be hoped that in the grand total of things it shall transpire that bacteriological research has not been wholly profitless.

[Written for the MEDICAL BRIEF.]

Love.

BY IVY E. HANCOCK, M. D.,
Independence, Kan.

Love should be a union, a harmonious union of soul and mind, but more often is a hereditary disease, which is handed down from our ancestors to every generation, affecting every individual at some time, if not all the time.

What it really is can not be described, but it comes with a tremendous magnetic force and affects, more or less, about all the people in existence, circumstances and environment more often determines the destiny of it. Some it will strike with such force as to make the world reel from the strong emotions startled within their souls, and others it will bring joy and sweet peace, too.

It has been demonstrated and proven that love is everywhere. God is Love. We know that it takes all the mystic forces of the universe to mold the destiny of man according to God's plan.

The law of attraction is love or affinity, and seems to be essential. The experience of Love manifests many aspects on the human plane. Every one loves and loves to be loved. 'Tis true, "All the world loves a lover," and this must be through the magnetic forces of the individual, which generally consists of beautiful and loving ways of thinking, speaking and acting, and, according to human nature, there will be responses of that which lies within laws of personal magnetism and expresses itself by attraction, and this attraction is manifested or expressed in many ways.

Love is an underlying principle of attraction and these attractions are convincing. Love, the same as other things with some people, will follow in the lines of least resistance.

Some think it fun to be in love, and many only get down to the congenial substratum of passion and imagine this to be love; but liking and passions will never make or equal love. With these people there is something lacking and this is the spiritual within, for this would keep them off of the physical plane.

But if lacking this, and letting the imaginative love lead you on, and if not well guided will lead you into deep waters, but you will find those who will place themselves on this same level, and it means a comfortable coupling of personalities.

And when the imagination has full sway, and the man has not been beheld when he has been invested with every quality dear to the heart of the generally-endowed woman, when, indeed, all is falsely blind, and she has a confused vision of an immense and mighty force bearing down upon her which shall sweep every tradition out of existence and anhiliate the material world, then man himself would do well to retire into obscurity and curse his short-comings, if his magnetic force proves to be a positive and her's a negative. And thus it often ends if neither party possess that which will bring them up higher from this animal plane. This truly explains why some of our younger people, and those in the prime of life are held down and can not come up, or do not come up to the higher callings of the better teachings, which elevates and blesses mankind.

[Written for the MEDICAL BRIEF.]

Acetanilide in Puerperal Eclampsia.

BY JAMES A. ODOM, M. D.,
Quinlan, Texas.

On October 1, 1903, I was called to see Mrs. B., who lived about ten miles out in the country. Upon my arrival found that she had been delivered by an old lady some five or six hours before my visit. I found patient when I entered the house in a convulsion, which lasted fifteen minutes. I gave hypodermic of morph. one-quarter grain. I did not have any verat. viride and determined at once to use acetanilide. I gave about ten grains and watched the effects. In about twenty minutes patient was seized by another convulsion, which did not last so long as the previous ones. As soon as she was from under this paroxysm I repeated the acetanilide, and waited one hour and gave another dose. Remained two hours with patient, when I noticed some muscular twitchings. I gave one-half teaspoonful without it having any bad effects. I left the medicine in five-grain doses to be given every two hours.

I was hastily called on the following morning with the statement that patient was threatened with seizures. Upon my arrival found her conscious, but perfectly blind. She made a good recovery, regaining her vision in ten days.

I have never read of anyone using this remedy in cases of puerperal eclampsia, but I believe that acetanilide will control the seizure more promptly than Norwood's tincture, as I had used the tincture in a previous case identically the same as this, with fatal results. Would like to know what the editor of the BRIEF thinks of the remedy. What caused the blindness?

I am a plain, every-day practitioner, and any knowledge along this line will be gratefully received.

[Written for the MEDICAL BRIEF.]

Spermatozoa and Ova.

BY SILAS HUBBARD, M. D.,
Buffalo, N. Y.

The spermatozoa of man, *e. g.*, are not secreted from the blood by the testicles, but they exist as nuclei in the testicles from a very early period of fetal life. So small that they can not be seen without a powerful microscope until they have been discharged into the vesiculæ seminales, or vagina, or externally. They are not entirely a new formation from the blood, but they are a development from nuclei which already existed in the testicles. The greater mass of the fluid called semen, in which the spermatozoa float, or swim, is furnished by the prostate gland, etc. The spermatozoa of man, *e. g.*, are rudimentary men, ready to develop into men or women, according to the age of the ova in which they come in contact. If a spermatozoid comes in contact with a new ovum and fastens upon its germinal spot, by feeding on that new ovum it develops into a male, but if it fastens upon the germinal spot of a mature or old ovum, by feeding on said ovum it develops into a female.

In each discharge of semen there are myriads of spermatozoa, so as to make the chance certain that one of them will get possession of the ovum; just as in a hive of bees there are thousands of drones, to make certain and sure that one of them shall impregnate the queen, and as all the drones have to die speedily after the queen is impregnated, so all the spermatozoa in the discharge of semen of man must shortly die, excepting the one which gets possession of the ovum. However, they do not die in vain, for they are liberally absorbed into the blood of the woman and strengthen her whole constitution, providing there is no commingling of the semen of a plurality of men, because in that case disease is sure to be generated.

It seems that in every discharge of semen of man one in every sixty of the spermatozoa has the demarkation of a double head. All that this signifies is that if a double-header gets possession of an ovum it develops into a man or woman with a double crown, and if a single-header, it develops into a child with a single crown. Those children of the same family who have a double crown are generally stronger mentally and physically than those with the single crown. The proportion of those with the double crown and the single crown are about the same as the double-headed spermatozoa to the single-headed, *viz.*, one to sixty. Those with the double crown are broader in this region than those with the single crown and, therefore, must have more cerebrum in this region than those with a single crown, and if they are larger in this region than those with a single crown then, to have the rest of the brain correspond, they are likely to have the rest of the brain also larger than those in the same family who have the single crown.

Men, as well as animals, after years of intemperate copulation, exhaust their stock of nuclei of spermatozoa in their testicles, are ever after sterile, having no more nuclei of spermatozoa in their testicles, although their copulating propensity may continue; and here I will add that women who are intemperate in copulation mature and exhaust their stock of ova early, and even naturally generally their stock of ova are exhausted by the time they are forty-six years of age; while men's stock of spermatozoa naturally continues much longer, sometimes until they are a hundred years old.

The men who get the orchitis in both testicles from gonorrhea, or mumps, are likely to be sterile ever after, the germs of said diseases having destroyed the nuclei of the spermatozoa. Likewise, women become sterile after those diseases have reached their ovaries, although in both cases the sexual propensity may continue.

Men, as well as animals, lose much of their energy, mentally and physically, by castration.

Some physiologists have thought by injecting spermatozoa into the circulation of certain patients they could promote their life, health and longevity.

Men and women will live just as long without marriage as with, providing they reconcile themselves to that condition.

The queen honey bee is impregnated while flying in the air. Among the thou-

sands of drones one of them gets possession of her and impregnates her, and in the act of impregnating her, her genital organs tear away his genital organs, in order that her spermotheca should get possession of all his spermatozoa, and after her spermotheca has secured and stored all of his spermatozoa, her genitals reject his refuse genitals, and he immediately dies, and by these spermatozoa which she has stored in her spermotheca, she impregnates all of her eggs as she deposits them in the cells of the comb during four or five years, after which her stored spermatozoa are exhausted, and a new queen is required to continue the generation of bees, and their colonizations. I will say, impregnates all her eggs excepting those which hatch out drones. I will say that her eggs originally, and without impregnation, give life to males; and so I will say that a woman's eggs originally and when impregnated in a recent state develop the spermatozoid into a male, but if the impregnation of the same ovum is deferred until it becomes mature, or old, it causes the spermatozoid to develop into a female; however, the laws which govern the genesis of bees are not entirely parallel with the laws which govern the genesis of men.

The spermatozoa of many different animals are of different shapes and sizes. The eggs of many different animals are of different shapes and sizes. The ova of the elephant is no larger than the ova of a mouse, and is much smaller than the ova of a louse. The mature ovum of man is only one one-hundred-and-twentieth of an inch in diameter. The ovum of man, or vitellus, and of many other animals, when impregnated, divides into innumerable sections, so that the spermatozoid which impregnated it can absorb it; for it fastens onto the germinal spot of the ovum by its navel, causing the vitellus, or yolk, to throw out a navel cord to it, the fetus, as a medium for drawing nourishment from the vitellus until it is all absorbed as nourishment, and then from the mother during utero-gestation. The spermatozoid furnishing the whole organization of the future being, while the mother furnished the egg as part nourishment, and the secundines to aid in the nourishment of the fetus until delivery at full term.

The female kangaroo receives the spermatozoa of the male in her nostrils and snorts them in her vagina, so that they reach her ova and impregnate them, and then in a very early period of their fetal life they are transferred to her teats in her pouch to complete their fetal life, to become independent kangaroos.

The dog and wolf have no vesiculæ seminales. The nuclei of their spermatozoa come directly from their testicles, and rapidly develop into microscopical visible spermatozoa after they are discharged.

The spermatozoa of the mammalia, in particular, have a particular movement of their own, resembling polywogs, to help them come in contact with the ova, thereby rendering impregnation much more certain than if they were passive.

Those mammalia in general which have very infrequent copulation oftener beget female offspring, because the spermatozoa have lain a long time in the vesiculæ seminales and have become comparatively inactive, and, therefore, are not so likely to reach the ova while they are fresh, or recent, as do the more active young spermatozoa of the animal which has more frequent copulation. The latter are more likely to beget males, on account of their more active spermatozoa being more likely to reach the ova while they are new and fresh, and, therefore, more likely to develop the spermatozoa into males.

Extra-uterine fetations in the tubes, or pavilion, or in the ovary, are more likely to be males than those which occur within the uterus, because the ova are more likely to be new, or fresh, in the former case than in the latter case at the time of impregnation, but if the impregnation is in the ventral cavity the product is more likely to be female than male, because after an ovum has dropped into the ventral cavity time is frequently consumed in a spermatoid following it, and impregnating it, and, therefore, it (the ovum) would be more likely to be old at the time of its impregnation; therefore, the product would be more likely to be a female. However, as a whole, there are many more male extra-uterine cases than

females, because the ventral cases are less numerous than the others.

Nature sometimes seems to halt as regards what the product of a conception should be, and it proves to be hermaphrodite. This is because at the time of the impregnation it (the ovum) was midway between recent and maturity. Some men are somewhat feminine in build and tastes on account of the ovum having been rather mature at the time a spermatozoid got possession of it, and developed into a male. You can reverse this saying as regards masculine-appearing women.

Frequently the collection of spermatozoa in the vesiculæ seminales of men are a great inconvenience to them, and woe be unto the legitimate wife who refuses to legitimately accept them, for they are always a benefit to her, while frequently they are of great inconvenience to him. The superior caloric and electricity of the woman stimulates the recent spermatozoa within her to great activity, that at least one of them shall get possession of an ovum.

The contents of birds' eggs are large, so that they will furnish sufficient nourishment to the spermatozoa until they become full-grown baby chicks, ready to be hatched.

Impregnation through a crow-quill hole through the hymen, and every impregnation of that sort are more likely to produce females, because the spermatozoid is only likely to travel to the inside of the uterus and impregnate an ovum there, which is likely to be old by the time it (the spermatoid) reaches it, and, therefore, it develops the spermatoid into a female.

Some stallions and some other mammalia only deposit their semen at the entrance of the vagina and, therefore, are more likely to beget females, while others even throw the semen in the uterus and thereby are more likely to beget males. In artificial impregnation of a woman the product is more likely to be male, because the spermatozoa are thrown into the uterus and, therefore, reach the ovum more direct and, therefore, is more likely to impregnate a recent ovum and, therefore, is more likely to develop into a male.

With the human species there are, on an average, one hundred and five males to every hundred females born, but it is well settled that in placenta previa cases there are more females than males born, because the ovum has descended into the cervix uteri, and is more likely to be old at the time of impregnation, and, therefore, is more likely to develop the spermatozoa into a female. I was the first to draw the attention of the medical profession to these facts, and the most of the facts of this paper. In those very rare cases of extra-uterine fetations which occur in the vagina, the product would be likely to develop into a female; for the same reason that placenta previa cases are more likely to be females.

I drew the attention of certain farmers to the fact that the last half of a batch of ducks' eggs hatched out male ducks because the eggs were newer than the first half when impregnated, and that the first half hatched females.

The female turkey after one copulation lays and hatches two separate batches of eggs in the same season. How they can do this without having a spermotheca to store spermatozoa to impregnate the second batch of eggs I do not understand. I draw the attention of physiologists to this subject, that they may investigate and report.

Among fishes there are twice as many males as females, to make sure that their eggs shall all be fertilized, and in artificial fish culture there are many more double monstrosities of fishes than when they are left to their natural condition. I might say the same about the human species, that the unnatural proceedings of the parents sometimes jam spermatozoa together so that they develop into double monstrosities, etc. These monstrosities are always of the same sex and contained in the same membranes, and have the same placenta.

The sow conceives the largest number of pigs if her copulation is midway in time of her heat, and the sexes are about equal in number, but if the copulation is in the beginning of heat the progeny is fewer in number and mostly males, and if the copulation is in the latter part of heat the progeny are fewer in number and mostly females.

Stock raisers ought to know that excessive copulation of the females of their

stock prevents their conception by causing the expulsion of their ova. The same might be said of the human species.

Savages are so filthy that their filth frequently kills their spermatozoa; is one reason of their being comparatively sterile. Women would keep better health and conceive better progeny if they would use vaginal enemas of a weak, tepid solution of salt, or soda, and water after each menstruation, or as much oftener as they choose, for cleanliness.

Acne is a common affection of young men shortly after puberty. One of the principal causes of this acne is the indulgence of sexual thoughts which causes an excessive maturation and deposition of spermatozoa in the vesiculæ seminales, and from there they are excessively absorbed into the system, and clog and irritate the pores of the skin, which are exposed to the air. Girls rarely have the disease, because they have no spermatozoa to be absorbed in their system. I would say to all young men, do not commit adultery in word, thought or deed, and marry young, and I will assure them they will generally escape this disease, and I will also say alopecia, for the same causes which cause acne frequently cause alopecia, which is very common among men, but very rare among women, because they have no spermatozoa to mature or lose. At the same time all the spermatozoa she can absorb into her economy promotes her health, longevity, and the growth of the hair of her head; providing, she does not allow the commingling of the spermatozoa of two or more men, for that frequently causes diseases, gonorrhea, syphilis, etc. The spermatozoa become savage and evolutionize, or devolutionize into gonococci and syphilitic germs. Those women who indulge in polyandra are savages and conceive savages, *e. g.*, the Maoris of New Zealand, the Pagans of Hawaii, the Thibetans, and a tribe in India called Todas, etc. Likewise they give birth to many more males than females, because they give many more chances for the impregnation of ova while new or immature; thereby they are exterminating themselves.

The wolf, dog and cat, in their wild state, are polyandrous and are very savage.

The fox, by nature, is monogamous, but if forced by culturists to be polyandrous the female is completely sterile. I suppose because the spermatozoa of the two males fight and destroy each other, and I believe the spermatozoa of very many other species do not agree with each other while commingling. A white woman will sometimes give birth to a white child and a mulatto as twins, but she never gives birth to such a pair grown together, for if the spermatozoa of the two races got interlocked they would kill each other; therefore, there are no such cases on record. The Jews have less of these deformities and divergences I have named, because they obey their sexual hygienic laws better than do the gentiles. (See MEDICAL BRIEF, Vol. 33, page 996.)

If temperate in sexual indulgence, the semen within a man promotes his health, improves his voice, and promotes the growth of his beard and hair. However, Nature sometimes provides that he shall lose his hair that he can better preserve his beard, voice and intellect, for what he loses in hair he makes up in these other respects, so we can not generally call baldness a disease, or calamity, for it may be a good thing under the circumstances. Much study and intellectual exercise frequently contribute to make men bald, but it is better to have brains than hair; therefore, I would advise the intellectual men not to make strenuous and persistent effort to cure baldness. Neither need they fear early piety as a cause of baldness. Neither need virtuous bachelors fear too much accumulation of spermatozoa in their systems, for they will be sufficiently carried off by dreams every two or three weeks, or as often as necessary.

It is said that Christ descended from Abraham, and his scriptural geneaology is traced through Joseph, his reputed father, which may be literally true, for surely an angel, by Divine direction, could have conveyed a spermatozoa of Joseph to the ovum within the uterus of the Virgin Mary, even without their consciousness. So the whole scriptural story may be true, and should be believed.

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[Written for the MEDICAL BRIEF.]

The Melancholic Temperament.

BY EDGAR H. NICHOLS, M. D.,
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The connection between the mind and the body can never be explained. As yet the first principles on which it depends have not been discovered. Nature, in her mysterious operations, eludes the sagacity of the most careful observers. We accept the inevitable as "that which hath been, which is, and which shall be, and which no man has comprehended." Ah! but there is left to human analysis his judgment between one set of appearances and another—an analysis of relation, as it were, and by a careful observation thereof—induction may yield him practical benefit.

Our medical teachings lead us to regard the body not merely as the temporary abode of the soul, but also as the instrument by which knowledge is acquired and purposes executed. Only through the senses do ideas reach the mind from the external world; these internal organs in action excite the passions, modify the operations of thought, and impart peculiarities to the moral nature.

The features of the mind, as of the face, are fixed beyond the possibility of change. The human family, which now occupies the earth, is composed of several races. These several races, although differing in color and speaking varieties of languages, are all characterized by an individuality of temperament, analogous in all.

Even our ancient brethren had established the simple classification of men according to their organization, and with a happy sagacity, for which they are justly considered eminent, invented the doctrine of temperaments.

To the human family has been assigned five great divisions of temperament: the sanguine, the bilious, the nervous or artistic, the phlegmatic and the lymphatic. These temperaments in their unmixed purity, exhibit absolute distinctness. At times we discern a blending of temperament, but Nature blends them in harmonious combination. We observe in these blendings one usually predominant:

The sanguineous prevails at the North.

The bilious at the South.

The phlegmatic in cold and moist marshy countries.

There is, however, conspicuously one temperament which comes under the frequent observation of our medical men, and often gives guidance in diseases both of the mind and the body; the knowledge of its peculiarities is neither unimportant nor uninteresting; of high moment to the physician in the treatment of disease, and not without its advantage to any one in the care of his health.

THE MELANCHOLIC TEMPERAMENT.

He of the pensive attitude, who stands apart musing, as it were, afar from the rest; one would take him for the bilious temperament if it were not for the compressed appearance of his chest. His countenance is pallid or sallow, and his features are expressive of melancholy. He is lean, yet of great muscular vigor; his eyes are clear and brilliant, yet of somber expression. His hair is dark and does not readily curl. He is rather tall—not ill formed—yet slender. Observe his breast—how narrow as compared with height; see how confined the play of his lungs is—the half-hitch in his breathing. He stoops as he sits or walks. Energy and life characterize his internal organization; but we are impressed with a certain obstruction lurking about the free action in his system. Oh, what sensitive nerves! There lacks that generous warmth which mollifies the sanguine temperament. What languid circulation!—on raising the arm the venous blood leaves the elastic tubes! And he seems as if long exposed to cold—inactivity—chilled. His face shows the anguish of difficult digestion. Such are the physical peculiarities of the melancholic temperament. Mentally, he impresses us with an habitual distrust of both self and affairs—a weak indecision; yet exhibiting undaunted perseverance in pursuing one object dear to his heart. It requires a strong motive to fix him! Behold Robespierre, who played so terrible a part in the French Revolution. He was of this ideal temperament; read his history. It will be a psychological study for you! He never swerves from a purpose once formed! Beauty has an in-

conceivable and mysterious power over this temperament, witness: Jean Jaque Rousseau, whose influence was father to the French Revolution. Beauty influences more than wisdom; yet slow to form attachments. His affections once engaged, they bear the seal of eternity. Sincere in his friendships, he avoids those not his turn of mind. He never forgives an injury. Vengeance is the crime of the malancholic. Embarrassed and even awkward in society. His language is singularly expressive. Imagination is paramount. It creates a world for him all unlike the real one; witness: that sweetest poet of France, Gerard de Nerville, he sees things only by reflection! Profound sentiment. Introspection is the weakness of the melancholic temperament. As physicians, we learn to interpret his troubles as the operations of his own mind, the real, or more probably, the imaginary woes of his own experience. The sanguineous man is happy in his fickleness. The bilious man enjoys himself in the stir of action. The phlegmatic is content if he is but left alone to repose undisturbed. The melancholic is quite satisfied only when discoursing or musing on himself and his sorrows. He is haunted by a longing for glory. This gives an impulse to his patriotism. This leads him to enter the career of letters. By nightly vigils and immoderate toil he would see his name enshrined among the immortal. Fastidious and timid, he is never satisfied with what he performs, though of all men he can least brook censure. Like a paradox, he relies on the very judgment which he himself distrusts, his own. His fastidious doubtings make him finish his productions in the most careful manner. Witness the most perfect grace and harmony of Virgil! The polished elegance of Gray!

Of all men the melancholic analyses the motives and passions of men, while he errs at times in his practical estimate of them. Refined and elevated, he easily feels admiration for all that is beautiful and unselfish among men; can pay homage to the fine arts; or be admitted to enjoy the serious pleasure afforded by philosophy and poetry. He has no talent for light humor and pleasantry; but he excels in bitter retorts and severity of satire. Witness: Edgar Allan Poe! Byron! Inflictions of extremes in pleasure and pain are constant. The virtue of patience is his; and genius is but patience.

Read the career of Jean Jacque. How brilliant is his imagination! What courage! Behold all of these and more in the bard of Mantua; see how it threw the thick cloud of self-torturing gloom over the poet of chivalry and the Cross, the sweetest minstrel of his country, yea, of all time—the inimitable Tasso!

This temperament possesses great influence over others. Witness the greatest trials in the life of Columbus. Providence has made no temperament morally evil or good. It has exposed each to its own temptations, and facilitated to each the acquisition of virtues. Vengeance is the crime of the melancholic. Never let the melancholic man surrender himself to malignant or degrading passions, for he is cold and merciless; dark and hateful designs lurk within his breast. He is indifferent to consequences. He neither respects the happiness of others nor is awed by the prospect of his own ruin. Deaf to humanity, reckless of nature, God and eternity. Tiberius, Domitian, Phillip II of Spain—read their lives!

If the melancholic man values health of body or mental peace, let him never yield to indolence—yea, let him shun solitude when his fancy begins to brood darkly over his cares. His passions have a tragical power. Summer is the dangerous season for him.

The writer desires to acknowledge grateful tribute to the memories of Hutchinson, Fothergil and Bancroft, literary pathologists, now of the immortals.

126 Oglethorpe Avenue, E.

[Written for the MEDICAL BRIEF.]

The Mosquito and Yellow Fever; A Word About the Little Cousins.

BY J. W. MCGLAUGHLIN, M. D.,
Wilson, Ohio.

Any physician who will take the pains to study the peculiarities and breeding of the mosquito will drop all his foolish notions in regard to his being a conveyer of disease. They are a product of stagnant water only. In the first place they

are a midget, then a wiggle, then a mosquito. Now, as a matter of fact, they have no anal region, and they never fill themselves but once, and then die. I have experimented with them and find that the fallacy of their living twelve days after filling up on the poison of a yellow fever patient is all bosh. I know that for them to inoculate another person they would have to *vomit* their virus, similar to vaccination. They would have to act like the hypodermic needle, but no piston to empty it. I would like to know how the bug hunters kept track of the pest for *twelve days* without having tags on them for identification. By my tests their natural lives are but nine days. I have bottled them and screened them, and dropped a piece of cork in the bottle for them to rest on, and nine days was the limit of life. Yet they may get a new lease on life by filling up on the germs of yellow fever.

There are other and more potent reasons for yellow fever, such as stagnant water and filth, and in the heat of summer the malarial fevers, caused by bad sanitary conditions.

[Written for the MEDICAL BRIEF.]

Pneumonia in the Semi-Tropics.

BY W. B. FORMAN, M. D.,

Sneads, Fla.

Treatment.—Sodium hyposulphite, four to six drachms; glycerine, one-half to one ounce, in seven ounces of water. Dose, tablespoonful for adult every hour (until three or four are taken) in one-half glass of water, mint to flavor. After bowels act, give every two hours. Also, tincture capsicum, aconite, or veratrum as required; nux and spirits of niter; counter-irritants, fly blisters in many cases, where severe continued pain, act like a charm. Quinine sulph. if malarial complications. Keep up gentle perspiration all the time. Hot applications to body, if necessary to cause sweating. Stimulants very important with us. Avoid ice packs, bleeding and acetanilide as death-dealing agents. The first remedy my sheet anchor. The others are auxiliaries. Of seven cases last season lost only one. Saw him once in last stage of disease.

Examination Questions of the Missouri State Board of Medical Examiners.

Kansas City, Mo., December 18-20, 1905.

ANATOMY.

1. Describe the stomach.
2. Describe the liver.
3. Describe the pancreas.
4. Name the so-called ductless glands.
5. Describe the spleen.
6. Describe the thyroid gland.
7. What is the abdomen?
8. Name the boundaries of the abdomen.
9. Name the regions of the abdomen.
10. What parts are included in each region?

PHYSIOLOGY.

1. What is the function of the cerebellum?
2. How many refracting surfaces does a ray of light pass through on its way to the retina? What are they?
3. What is the office of spleen?
4. Give steps in digestion of proteids.
5. Give fetal circulation.

CHEMISTRY.

1. What is a molecule
2. What is an element; and how many are there? Give illustration.
3. What would be antidotes for combined arsenical and strychnine poisoning?
4. Give difference between chronic and acute form of lead poisoning. What are the sources of each?
5. Give (chemically) steps in manufacture of alcohol.
6. Give chemistry of respiration.
7. What is the chemical composition of milk?
8. Give antidote for phosphorus; also treatment for phosphorus poisoning.
9. Give properties of hydrogen gas.
10. What are the constituents of urine? Give normal specific gravity.

SURGERY.

1. Define shock and how you would treat it?
2. How would you treat a fracture of the shaft of the femur?
3. How would you treat a Colles' fracture? Describe fracture and treatment fully.
4. Describe an operation for popliteal aneurism.
5. Give symptoms for stone in the bladder of a male.
6. How would you treat hydrocele?
7. Give methods you would adopt to remove a kidney.
8. Name the luxations of the shoulder joint; symptoms of each and how reduced?

9. Describe erysipelas; (*a*) simple; (*b*) phlegmonous, and treatment.
10. How would you perform external perineal urethrotomy?

OBSTETRICS.

1. Name all the female reproductive organs.
2. Describe the uterus, and give its nerve and blood supply.
3. Name *all* the signs of pregnancy at the end of the second month. What is Braxton Hick's sign?
4. Name some of the more important diseases of the fetus in utero.
5. What is ballottement. When is it available and how it is performed?
6. How many vertex presentations can we have? Tell how to make the diagnosis in vertex presentations.
7. What is cephalic version; when necessary and how performed?
8. What is an impacted breech presentation? Give diagnosis and explain method of delivery.
9. Under what circumstances would you suggest podalic version. How is it performed?
10. Describe in full your management of a case of normal labor; (*a*) as relates to mother; (*b*) as relates to child.

GYNECOLOGY.

1. What is subinvolution? Give the results of subinvolution of the uterus, and what is its treatment?
2. When is intrauterine irrigation justifiable? Describe the technic of its use.
3. When is ventrofixation of the uterus justifiable? Describe the operation.
4. What is endometritis? Name causes and give treatment.
5. Define (*a*) anemia and give treatment. (*b*) Chlorosis and give treatment.

HYGIENE.

1. What are the elementary principles necessary to man's existence?
2. What is the physiological effect of alcohol; (*a*) on the nerve centers; (*b*) on the circulation?
3. Why is it necessary to possess a knowledge of the physical and chemical condition of soil?
4. What is the distinction between non-putrefactive decomposition, or decay, and putrefaction?
5. How do diseased germs produce their characteristic effects on the system?

PATHOLOGY.

1. Give the structural changes that occur in tuberculous joints.
2. Describe the blood changes in pernicious anemia.
3. Give the pathology of the second and third stages of lobar pneumonia.
4. Discuss cheesy degeneration.
5. Discuss metastatic abscess formation.

THERAPEUTICS.

1. What causes autotoxemia? Give treatment.
2. What is nocturnal enuresis? Give treatment.
3. Give physical signs and treatment of pericarditis.
4. Give therapeutics of acetic acid.
5. Define anthrax. Give its etiology and treatment.
6. Define styptics and hemostatics. Mention two of each.
7. Mention the sequele of influenza or grip. Give treatment.
8. Give symptoms and treatment of acute pleurisy.
9. Give treatment of a case of renal colic.
10. Give treatment of a case of acute gout.

MEDICAL PRACTICE.

1. Locate the (normal) apex beat of the heart.
2. What conditions increase the area of heart dullness?
3. Describe and locate the pain in (*a*) appendicitis, (*b*) renal calculus, (*c*) gall stones.
4. Give some of the chief characteristics that differentiate an acute from a chronic form of disease.
5. What is collapse? Mention two frequent conditions in typhoid fever that are attended with collapse, and indicate treatment in each instance.
6. Describe an (*a*) intermittent pulse; (*b*) an irregular pulse.
7. Write a brief description of each of the following diseases, embracing etiology, symptoms, and general management:
   7. Typhoid fever.
   8. Tetanus.
   9. Empyema.
   10. Cystitis.

BACTERIOLOGY.

1. Describe bacillus pseudo-tuberculosis.
2. Give description of Lustgarten's bacillus.
3. Differentiate (bacteriologically) between diphtheria and follicular tonsillitis.
4. What is the method ordinarily used in detecting gonococci? Also culture characteristics.
5. What is a mixed infection? Give example.

JURISPRUDENCE.

1. What are the symptoms of poisoning by wood alcohol?
2. How would you distinguish between a male and female skeleton?
3. Differentiate between infantile paralysis and idiocy.
4. What mental conditions render a testator incapable of making a will?
5. What is pederasty?

Book Notices.

LECTURES ON AUTO-INTOXICATION IN DISEASE, or Self-Poisoning of the Individual. By Ch. Bouchard, Professor of Pathology and Therapeutics; Member of the Academy of Medicine and Physician to the Hospitals, Paris. Translated, with a Preface and New Chapters added, by Thomas Oliver, M. A., M. D., F. R. C. P., Professor of Physiology, University of Durham; Physician to the Royal Infirmary, Newcastle-on-Tyne; Formerly Examiner in Medicine, Royal College of Physicians, London. Second Revised Edition. Philadelphia: F. A. Davis Company, Publishers. Price, $2.00.

Professor Bouchard has made this subject his special thought, and no one has ever wasted his time in following his ideas on the facts this work contains. If you will stop to think how putrefactive processes in the intestinal canal, and the development, physiological and pathological, alkaloids play an important role in many disease processes which, until of late years, were unknown or misunderstood, you will form some idea as to the value of Dr. Bouchard's ideas of this subject. We all know that our secular press each day contains the facts that tainted meat, canned goods, cheese, and various other things, have been the cause of sudden deaths. This is a book rich in facts, and as such deserves close reading by our friends.

GENITO-URINARY SURGERY AND VENEREAL DISEASES. By J. William White, M. D., John Rhea Barton, Professor of Surgery, University of Pennsylvania, and Edward Martin, M. D., Professor of Clinical Surgery, University of Pennsylvania. Illustrated with three hundred engravings and fourteen hundred colored plates. Sixth edition. Philadelphia: J. B. Lippincott Co. Sold by subscription.

The preface to this edition states the facts, from a thorough reading, better than we could do so, so we quote: "This edition has been revised in accordance with the latest teaching and practice, with the most skilled in this branch of surgery. This has involved a study of current literature, and a selection from it of such facts and procedures as have been proven worthy of general acceptance. Though the technique of the genito-urinary specialist has not been revolutionized in the last two years, it has, in many respects, been greatly improved. It has been the purpose to embody in this text-book all the improvements. It has seemed desirable to insert many new illustrations, and in some cases, notably in discussing prostatic hypertrophy, to rewrite some sections." The book has been improved in a large degree, without enlarging it, and the teaching has been made more clear, direct, and practical. All in all, we consider it one of the most desirable on the subject.

SUPERSTITION IN MEDICINE. By Professor Dr. Hugo Magnus. Authorized Translation from the German. Edited by Dr. Julius L. Salinger, Late Assistant Professor of Clinical Medicine, Jefferson Medical College; Physician to the Philadelphia General Hospital, etc. New York and London: Funk & Wagnalls Company. Price, $1.00.

This is a work that should be read by all classes of physicians, as it is written from the standpoint of a criticism of man, rather than one of a system. Medicine and theology have been closely associated, the errors of one have been reflected in the mistakes of the other; thus, we do not reject chemistry because it originated in alchemy, and we do not reject astronomy because it was, in a way, associated with the teachings of astrology, and so in theology and medicine we look to the final issue. As a work depicting the superstitions that prevail, even in this enlightened age, it is well worth reading.

FAULTY DICTION, or Errors in the Use of the English Language, and How to Correct Them. By Thos. H. Russell, LL. B., Editor-in-Chief of Webster's Imperial Dictionary. Chicago: Geo. W. Ogilvie & Co. Price, leather, 50 cents; cloth, 25 cents.

Thomas H. Russell, LL. B., editor-in-chief of Webster's Imperial Dictionary, has done the public a great service in having written the new book, entitled "Faulty Diction, or Errors in the Use of the English Language and How to Correct Them," which the publishers have, by printing it on thin Bible paper, succeeded in getting into what may be called vest-pocket size. Illustrating the comprehensive treatment that has been given the subject by the author, there are 1017 headings treated in

the book, under some of which—"plurals," for instance—over fifty errors that are not at all unusual are to be found illustrated and corrected. It is rarely one's good fortune to become possessed of so valuable a book, and especially one so compact, and of as much general interest.

THE BLUES (SPLANCHNIC NEURASTHENIA). CAUSES AND CURE. By Albert Abrams, A. M., M. D. (Heidelberg), F. R. M. S., Consulting Physician, Denver National Hospital for Consumptives, the Mount Zion, and the French Hospitals, San Francisco; President of the Emanuel Sisterhood Polyclinic; formerly Professor of Pathology and Director of the Medical Clinic, Cooper Medical College, San Francisco. Illustrated. Second Edition. Enlarged. New York: E. B. Treat & Company. Price, $1.50.

You often hear the expression: "Oh! I have the blues." Of course, this is a neurasthenic condition caused by nerve exhaustion. This feature of the condition had never been described in any previous work, and the physician would say nothing need be done but a little suggestion, but now comes Dr. Abrams with absolute treatment for these conditions.

A THESAURUS OF MEDICAL WORDS AND PHRASES. By Wilfred M. Barton, M. D., and Walter A. Wells, M. D. Philadelphia, New York and London: W. B. Saunders & Co. Price, $2.50.

This work performs for medical literature the same services which Roget's work has done for literature in general; that is, instead of, as an ordinary dictionary does, supplying the meaning to given words, it reverses the process, and when the meaning, or idea, is in the mind, it endeavors to supply the fitting term, or phrase, to express that idea. In the matter of synonyms of technical words, the authors have performed for medical science a service never before attempted.

SEXUAL NEURASTHENIA (NERVOUS EXHAUSTION). Its Hygiene, Causes, Symptoms and Treatment. With a Chapter on Diet for the Nervous. By George M. Beard, A. M., M. D. Edited, with Notes and Additions, by A. D. Rockwell, A. M., M. D. Sixth Edition, with Formulæ. New York: E. B. Treat & Company. Price, $2.00.

A work shows its worth when age finds it still in demand as the best of its kind. Neurasthenia exists now, as it has in years past, yet the fast times of today should show an increase; and in the management of these cases there is always something new to learn. This edition affords an opportunity for the editor of this work to formulate processes drawing attention to the symptoms of incontinence of urine, in its relation to neurasthenia, and describing a method of treatment which has resulted in good effects. We can endorse this work as a thorough one on this subject. A condition that all physicians recognize as a stubborn one to deal with.

TEXT-BOOK OF MATERIA MEDICA FOR NURSES. Compiled by Lavinia L. Dock, Graduate of Bellevue Training School for Nurses. Fourth Edition. Revised and Enlarged. New York and London: G. P. Putnam's Sons, Publishers. Price, $1.50.

This revision has been entirely entrusted to Miss Bean, of the Johns Hopkins Hospital Training School for Nurses. As in former editions, synthetic remedies which have borne the test of practical experiment have been included, no attempt being made to present a full list of these innumerable drugs. The source of information has been personal, rather than from books, having been collected in the pharmacy, the class-room, and the clinic. This establishes the practical character, which is essential in the teaching of the nurse. It has been made to conform to the latest edition of the United States Pharmacopeia. It is very valuable for the nurse, or the physician to place in the hands of the nurse for her guidance.

BLAKISTON'S VISITING LIST comes to us this year, as it has ever since our early days, neat and trim, as usual, only much improved over former years. It has been issued for fifty-five years, and is certainly appreciated for its merits in make-up. It comes in sizes for 25 to 100 patients per day, week, or month. Prices range from 75 cents to $1.50, according to size. Philadelphia: P. Blakiston's Son & Co., Publishers.

THE MEDICAL RECORD VISITING LIST. for 1906, dated or undated. Prices range from $1.25 to $4.00, owing to style of binding and whether for thirty or sixty patients per week. As this list has been in the market for many years, we need not dilate on its merits. Published by Wm. Wood & Co., New York.

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Editorial.

Federal Control.

The tendency to reversion is inherent in mankind and, consequently, affects all our affairs. There is a tendency in all republics, even ours, to revert to monarchy, or centralization of power, and it is all the more dangerous that it is divested of monarchy's pomp and show, and appeals to us, as is so often the case, in the name of wisdom and protection.

We refer, in this particular instance, to the proposed control of corporations by the Federal Government.

The Constitution gives the States absolute sovereignty in the matter of chartering and regulating corporations. The Federal Government assumes that the States, or some of them, do not show enough wisdom in using this power, and proposes to remedy the deficiency by usurping State rights.

If this proposition was carried out we should have imperialism with a vengance. When the nation lays hands upon the machinery of bread-winning the rights of the individual are at the last gasp. If this proposition were conceded it would establish a precedent by which any right of the State could be declared void and Federal control rendered absolute.

It is true that much harm has been done by the floating of over-capitalized companies; but education, not paternalism, is the natural remedy for this state of affairs, through which every civilized country passes, and there will always be a class of people who will be squeezed when values fluctuate, for they will gamble by one means or another. No law can restrain them.

The freedom of the States, like the freedom of the individual, is a good thing for progress. They are at liberty to experiment with their powers, and knowledge comes through the very diversity of results. The use of Federal authority to cause enforced uniformity, or to interfere with the private rights of individuals in carrying out their plans, is wrong and opposed to the best interests of the nation.

In an age of too much law the independent sovereignty of the States gives a little relief by affording some elasticity of conditions. If one State passes a law which would put a man out of business, he can move across the line. Absolute Federal control would make the State of the individual well-nigh intolerable.

We can not have Federal control of corporations, or anything else, without a radical change in the government instituted by the founders, on whatever ground of wisdom or expediency its authority is invoked.

It is the old problem of birthright, or pottage, and the old saw that it is better to bear the evils that we have than fly to those we know not of, applies with homely force. The State has even now placed too many restrictions upon the individual. With the vast impersonal force, the endless machinery of the national government to reckon with, his rights would be hopelessly lost sight of.

Honest Methods.

Honest methods of doing business, respecting the rights of your competitors, and others, giving value for value, proving yourself fair and reliable in all dealings, is the only way to obtain permanent success.

In these days of force and graft people imbibe the idea that they must adopt these methods to get along; whereas, the reverse is true. In almost every department of life combinations are being formed to create artificial conditions by force, and to exact compliance with rules and regulations which take an unfair advantage of the individual.

The organization, which is ostensibly formed to advance the interests of its members, soon falls into the hands of a few who use it as an engine of tyranny and personal aggrandizement. These few become the real masters of the rank and file of the organization, which serves as a mere machine of war.

The methods pursued by organizations in accomplishing their ends are, for the most part, unnatural and unfair. Such successes as they may win are but temporary in the nature of things. Anything which tends to subordinate the individual, which substitutes artificial means and methods for the natural fruit of mental and character growth, is bad for the man and the nation. The individual was built to aspire and to thrive, to dare and to endure. He was meant to make mistakes, and to think out the why and the wherefore. He was intended to learn, to grow, and to achieve by his own efforts, and anything which steps between him and his destiny injures and cheats him.

A man must work out his own salvation, and he can not do it unless he is let alone. He must have liberty.

The use of force, in lieu of logic, trying to compel people where you can not convince them, is an unfair and dishonest way of conducting business, and one which in the end will inevitably operate against those who seek to employ it.

The man who uses his eyes can not fail to observe that the most successful men are also the most reliable and honest. The old-established mercantile houses of New York, London, Paris and Vienna are monuments of probity. Intelligence, integrity and independence are the essentials of all enduring success.

Simply a Scheme.

The committee that pretends to represent the physicians of this country has been on to Washington trying to get Congress to pass a law compelling proprietary manufacturers to put the formula on the bottle.

This is simply a scheme of some of the general manufacturing chemists, who want to make substitutes of well-known and well-established proprietaries. The scheme is too transparent to fool any intelligent physician.

The Nigger in the Woodpile.

When one realizes that some of the manufacturers of weights and measures are strenuously urging Congress to pass the metric system, and if this were to become a law several hundred thousand weights and measures would have to be bought, one can readily see the nigger in the woodpile.

THE MEDICAL BRIEF

J. J. LAWRENCE, A. M., M. D.,
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[Written for the MEDICAL BRIEF.]

The Legal Aspect of Insanity in Great Britain.

BY T. OUTTERSON WOOD, M. D., F. R. C. P. (EDIN.), M. R. C. P. (LOND.).

Senior Physician to the West End Hospital for Nervous Diseases, Welbeck Street, London; and President of the Medico-Psychological Association of Great Britain and Ireland. London, Eng.

In previous papers I have dealt with "Some of the Earlier Phases of Mental Disease," and in the present article I propose discussing the "Legal Disabilities of Early Treatment, and the Proposed Remedy."

The early treatment of all forms of mental disease has been insisted upon so long that the present state of the law in Great Britain relating to it and the suggested alterations, can not fail to be of interest to the profession generally. The penal clauses of later legislation which apply to early treatment should be widely known, and no apology is necessary for reproducing them here. They are to the following effect:

1. Every person who, except under the provisions of the act, receives or detains a lunatic, or alleged lunatic, in an institution, or for payment takes charge of, receives to board or lodge, or detains a lunatic, or an alleged lunatic, in an unlicensed house, shall be guilty of a misdemeanor, and in the latter case *shall be liable to a fine not exceeding fifty pounds.*

2. Nor shall any person receive two or more lunatics in any house, except it is an institution for lunatics, or a workhouse. Any person who receives or detains two or more certified lunatics shall be guilty of a misdemeanor.

The Commissioners in Lunacy have the power to allow more than one certified lunatic to be admitted into an unlicensed house, but their permission in writing must be obtained beforehand.

It is an undoubted fact that this law has pressed hardly upon the early treatment of what are called "borderland cases;" that is, cases which, although exhibiting certain symptoms of mental disorder, are yet uncertifiable, and although we may recognize the gravity of such cases, and our experience points to the more definite symptoms that are sure to follow (as an eruption follows the initial stage of a specific fever), yet the law steps in and prohibits the care of these uncertifiable patients, except under certificates, and we have to stand by and see the disease develop under conditions which may culminate in murder or suicide, while we are powerless to take the necessary steps to protect the patient without breaking the law. The result has been that, in the interests of those patients, the law has been broken right and left, as we know, and as prosecutions by the Commissioners testify.

At the annual meeting of the British Medical Association, at Carlisle, in 1896, in the discussion of a paper by Dr. Henry Rayner on the certification of the insane, I advocated an alteration in the law, so that, taking the Scotch lunacy law as a standard, we should be able on this side of the border to legally place uncertifiable cases under care in the house of a medical man, or other person, for a definite period of, say, six months, in order that proper care and supervision should be exercised over the patient in the incipient and most curable stage of the disease, while the appropriate treatment was being adopted for his cure.

In this view I was cordially supported by Dr. Yellowlees, and others, who bore high testimony to the efficiency of the Scotch procedure, and steps were taken at that meeting to bring the matter under the notice of the council of the association. A joint committee of the association and the Parliamentary Committee of the Medico-Psychological Association have taken the matter in hand, and I may say that, owing to the joint influence of these associations, the Lord Chancellor has incorporated into the proposed new lunacy law a clause which will legalize, and advance most materially the early treatment of these cases of incipient, or uncertifiable insanity.

The clause proposed is as follows:

1. If a medical practitioner certifies that a person is suffering from mental disease, but that the disease is not confirmed, and that it is expedient, with a view to his recovery, that he be placed under the care of a person whose name and address are stated in the certificate for a period therein stated, not exceeding six months; then during that period the provisions of section three hundred and fifteen of the principal act shall not apply.

2. The certificate must not be signed by the person under whose care the patient is placed.

3. Where a medical practitioner signs any such certificate, he shall, within one clear day after signing it, send a copy of it to the Commissioners, and the Commissioners may visit the patient to whom the certificate refers.

4. The person who receives any such patient shall, within one clear day after receiving the patient, give notice to the Commissioners of his reception, and if the patient dies, or the residence of the person receiving him is changed within the period mentioned in the certificate, shall within two clear days give notice of the death, or change of residence, to the Commissioners.

5. He shall also, within two clear days after the expiration of the period mentioned in the certificate, or if he ceases to have the care of the patient at an earlier date, then within two clear days after that earlier date, send a report to the Commissioners stating whether the patient recovered, and if not, in what manner he was dealt with when the person making the report ceased to have the care of him under the certificate.

6. If default is made in sending any notice, or report, required by this section, the person in default shall be guilty of a misdemeanor, and be liable to a penalty not exceeding fifty pounds.

7. No person shall, under this section, receive more than one patient at the same time.

8. After the expiration of the period mentioned in the certificate, another certificate under this section, in respect of the same patient, shall not be given within two years from the date of the expiration.

This proposal clause will confer a great boon upon the community, and is conceived in a broad and liberal sense. Indirectly it provides for the registering and bringing under the official cognizance of the Commissioners in Lunacy, as an impartial authority, all those who undertake the care of cases of incipient uncertifiable insanity, and makes the illegal reception of persons of doubtful mental soundness, except under proper supervision, all the more indefensible. That such breaches of the law, as it stands, have been much too frequent is the common knowledge of those whose line of practice has been chiefly that of alienist physicians, and it is high time some legislative enactment should be put into force for making legal the earlier treatment of these cases, and which would be some guarantee of the suitability of the persons undertaking their care, and of the homes in which they are placed. The limitation of the time to

six months is necessary, and there can be no excuse for prolonged detention. If the case is one of incipient insanity, the disease will be cured, or confirmed, in the large majority of cases, well within that time, if the treatment has been correct, and the care judicious and suitable.

I think that a period of two years is too long, and that twelve months would suffice to safeguard against recurrent attacks.

With regard to the necessity for there being some supervision over the persons who receive incipient mental cases, there can not be two opinions. It is a fact that so-called medical and other "homes" are often used for this purpose, owned by persons who have had no experience, no asylum training, who know absolutely nothing about the care of such cases, and who do not hesitate to employ so-called nurses for their supervision who, being equally ignorant of the duties they are called upon to discharge, either grossly abuse the application of mechanical restraint, or daily neglecting the most elementary precautions for the safety of the unfortunate patient, unwittingly connive at his self-destruction. That there is a demand for accommodation for these patients is patent to everyone whose line of practice is among mental cases, and that the demand is endeavored to be met in a wholesale and indiscriminate fashion can be proved by the perusal of the advertisements in the medical and lay press, where all sorts of men and women proclaim their readiness to take them for a consideration, whether they are qualified to do so or not. It is to be hoped the proposed legal enactment will act as a wholesome check upon the abuse which exists, both in the care and treatment of these cases.

[Written for the MEDICAL BRIEF.]

Flux.

BY W. E. MANCILL, M. D.,

Cisco, Tex.

When you have a case of flux try the following recipe, you will be pleased:

℞ Tr. Opii..... ½ ounce.
Tr. Catechu..... ½ ounce.
Syr. Rhei..... ½ ounce.
Syr. Acacia..... ½ ounce.
Bis. Sub. Nit..... 2 drachms.
Spts. Turpentine..... ½ drachm.

M. Sig.: Give a teaspoonful to an adult after each action until relieved. Shake before giving.

[Written for the MEDICAL BRIEF.]

The Pharmacological Action of Strychnine and Its Allies.

BY C. D. F. PHILLIPS, M. D., LL. D. (EDIN.), LL. D. (ABERD.), F. R. S. (EDIN.), F. R. C. S. (EDIN.), M. R. C. P. (LOND.).

Late Lecturer on Materia Medica, Pharmacology and Therapeutics in the Westminster Hospital, London, and Examiner in the Universities of Edinburgh, Glasgow and Aberdeen; Honorary Fellow of the Medico-Chirurgical College of Philadelphia. London, England.

(No. 2.)

Continuing our investigation of the pharmacological action of strychnine, we note that the proof of its stimulative action on the sympathetic is to be found in the ocular phenomena—the protrusion of the globe, and the dilatation of the pupil, but especially in the contraction of the small arteries by vaso-motor influence, and the consequent increase of arterial pressure. Strychnine has little or no direct effect on muscular tissue, and little or none on peripheral sensory nerves. Magendie early established the facts that if the nerve to a muscle be divided strychnine produces no spasm, but if the artery alone be ligatured it does. If the brain be separated from the cord convulsions still occur, but if the sensory nerves are paralyzed, *e. g.*, by section of the posterior roots, or by the application of cocaine to the skin, they cease. The effect of strychnine upon muscle and nerves can be demonstrated experimentally as follows:

Two muscle and nerve preparations are made, and the minimal stimuli for both nerve and muscle are determined. The muscle of one preparation (*a*) is placed in a watch glass filled with normal tap-water saline solution, saturated with strychnine (one in six thousand seven hundred); the nerve is left outside upon a piece of wet filter paper. The nerve of preparation (*b*) is placed in the solution, but its muscle is placed outside upon the filter paper. The minimal stimuli are determined from time to time, and it will be found that the endings of the nerve in the muscle exposed to the strychnine are paralyzed. Stimulation of nerve (*a*) produces no contraction, but direct stimulation of the muscle read-

ily evokes a response. In this respect strychnine resembles curare.

The effect on the heart will now be considered. Of the increase in arterial pressure there can be no doubt, and Richter and Mayer have demonstrated it in animals previously "curarized," and lying immovable, *i. e.*, free from the convulsions of strychnine. The pressure may be seen to rise as the drug begins to act, and is not due to any influence on the heart; for it occurs even after section of the vagi, and it fails to occur after transverse section of the cord in the upper cervical region. This may be taken to prove that the narrowing of vessels depends upon the poison acting on the vaso-motor centers, and especially those in the medulla oblongata; the pressure may arise to twice its normal amount. The pulse is naturally rendered slower at the same time. The primary stimulation and rise in pressure described are followed by opposite conditions—a fall in pressure and vaso-motor paresis—very large doses produce these latter symptoms directly.

Recent experiments by G. W. Crile on the action of strychnine in dogs (*New York Medical Journal*, September 24, 1904) confirm and amplify these findings. In the majority of animals when sufficient strychnine was given to raise the excitability of the cord, as shown by increased reflexes and muscle tonus, a rise in blood pressure occurred. After doses less than this nothing noteworthy occurred.

When more was given after this stage of increased excitability, convulsions occurred, and the blood pressure rose enormously, sometimes to even more than double the normal, and if the convulsions were prevented by curare, the blood pressure rose equally high.

After frequent repetition of the dose the blood pressure not only failed to rise, but sank to a level even below the normal, with irregularity of the curve, the result of exhaustion of the vaso-motor center, as in shock.

The systole of the heart is increased in force, and the diastole prolonged; the organ may cease to beat and become fixed in a state of spasm at any period of poisoning; the action on it is exerted partly through the cardiac ganglia, partly through the pneumogastrics.

In the vertebrata, the heart sometimes does not quite stop when apparent death takes place, and its activity may be restored by artificial respiration, if this be quickly commenced.

The blood pressure rises from stimulation of the vaso-motor constriction center presiding over the internal organs, but the superficial vessels of the skin and mucous membranes seem to be dilated, a condition to be explained by stimulation of their vaso-dilator center; hence the distribution of the blood may be altered by it, more in the surface, less internally. Certain experiments I have made on frogs with Dr. Pembrey may, I think, be regarded as conclusive as showing the effect of strychnine on the heart. I quote only one example:

The vago-sympathetic nerve is exposed, and a record is taken of the contraction of the heart. A few drops of normal tap-water saline solution are applied to the heart, the record is continued, and then the vago-sympathetic nerve is stimulated by a strong faradizing current. The inhibitory action of the vagus and after-effect are observed (Chart A, curve I). A few drops of a saturated solution of strychnine in normal tap-water saline (one in six thousand seven hundred) are allowed to flow over the heart. In a few seconds the heart-beat becomes slower, but larger; the vago-sympathetic is again stimulated. Inhibition is not so marked; there is an after effect, but the contractions are slow (Chart A, curve II). Further doses of strychnine are given, and the stimulation is repeated. The inhibitory effect of the vagus is removed (Chart A, curve III). The period of stimulation of the vago-sympathetic is shown by the white line. The time is marked in seconds.

The prolonged action of the drug is to produce a slow and feeble beat.

Under the influence of strychnine the respiration is first increased in frequency by raising the reflex excitability of the respiratory center; it is later decreased, and ultimately arrested, by the respiratory muscles being thrown into tetanic spasm. A gradual respiratory failure may, however, occur from paralysis when death has not occurred suddenly.

Strychnine is said to act to some extent as an expectorant by stimulating the

respiratory center. The action of strychnine on the respiratory center is evidently a portion of its wide influence on the whole motor tract.

The passage of strychnine by the urine, doubtless, determines vesical symptoms, such as frequency of micturition with some spasm, which occur especially in women; the ultimate effect of toxic doses is loss of controlling power of the sphincters, the urine, as well as feces, passing involuntarily. The uterus is stimulated to contraction, and menstruation is promoted, rather than the reverse; the drug increases the sexual appetite, and there is evidence that it induces erections.

Professor Cushny remarks that strychnine, in increasing the movements of the body, augments oxidation, and the consequent excretion of carbonic acid. The continuance of the spasms exhausts the supplies of energy—thus it lessens the glycogin of the liver and muscle. Glycosuria is often found during experiments on animals, but has been traced to partial asphyxia, rather than to any specific action.

Strychnine does not interfere with the heat-regulating mechanism of the body, for while the body heat tends to rise, owing to the muscular spasm, it is kept at a normal level by the increased heat-loss through the skin.

Electricity favors the effect of strychnine, according to an experiment of Vulpian, in which he galvanized the cut end of a sciatic nerve in a frog subjected to strychnine, and found that characteristic spasm occurred in it more violently than in the opposite one, and it lost its proper powers sooner from exhaustion. Ignatia, brucine, picrotoxin, thebaine, to some extent ergot, and, according to Rabuteau, belladonna, are also synergic.

There is much evidence as to the definite antagonism exerted within certain limits by this drug, between chloral hydrate and strychnine. Hughes Bennett showed that a recognized fatal amount of strychnine was counteracted in its effect by a certain dose of chloral—though, of course, a very large dose of the former may kill before any antidote has time to act; and, on the other hand, the dose of the latter may be such as to destroy by its own power. The antagonism extends to the soothing, or stimulating, respectively, of the reflex activity of the cord. Strychnine will not antagonize the coma of chloral. The proofs offered by Liebreich of the antidotal power of chloral are weakened by the results of Orr, who showed that the dose considered fatal by the former did not always prove so. Bennett put the minimum fatal dose of strychnine for rabbits at one two-hundred-and-eighty-eighth grain per pound of body weight, and out of twenty rabbits poisoned by more than this proportion fifteen recovered under chloral; these died quickly a few days afterwards from a similar dose of the poison, given without the antidote. In man, cases in which four grains and upwards have been taken have recovered under chloral.

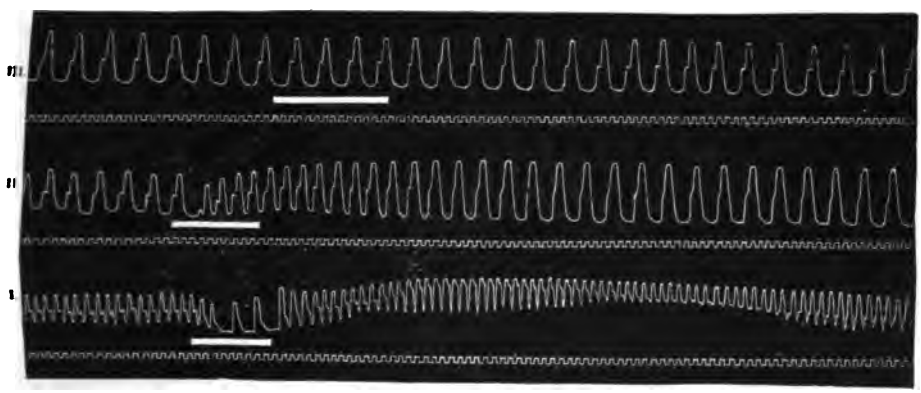

CHART A.

Gray quotes a case where twenty-two grains of strychnine were taken and, after an emetic, one drachm of chloral was given, and followed by a second drachm, recovery ensuing. Vulpian has demonstrated the antidotal power of intravenous injection of chloral in dogs with much exactness. Relief of the spasms has been recorded after the administration of oxygen and amyl nitrite, chloroform, ether, and also, though more slowly, bromide of potassium. A case of recovery after three grains of strychnine, when one-half ounce of the bromide was quickly given, is quoted by H. C. Wood. There was no vomiting, but relaxation of the spasm occurred half an hour after the bromide was given; small doses of it were continued for an hour or two afterwards. Alcohol pushed to narcosis acts in a similar manner to chloroform, as shown on animals.

Other drugs that might seem indicated from physiological experiment, such as aconitine, prussic acid, nicotine, are unsafe, and have not proved useful in practice. Opium has markedly delayed the onset of strychnine symptoms, *e. g.*, when one and one-half and two drachms, respectively, of laudanum were taken at the same time as a packet of "vermin killer." In a case where one and one-eighth grains of strychnine, and at the same time one or two ounces of tinctura opii were taken, symptoms from the former drug did not set in for eight hours. Chloral was given four hours afterward, and recovery occurred. Artificial respiration, practised forcibly with a tube in the larynx, prolonged life, and contributed to recovery in poisoned animals, but it is doubtful whether any possible method of employing it in man can be efficacious. Charcoal acts as a mechanical, and tannin and preparations of iodine as chemical antidotes, precipitating and decomposing part of the alkaloid; but if they are first administered in cases of poisoning they should be followed by emetics, such as apomorphine, or the stomach-pump, since the compounds formed are still poisonous. Practically, as Murrell has shown, the best pharmacological antidotes for strychnine are chloral and bromide of potassium.

[Written for the MEDICAL BRIEF.]

The Nature of Rheumatism and Its Natural Termination.

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It would seem from careful study of a large number of cases that acute articular rheumatism should be classified among the infectious diseases. This conclusion is derived from a purely clinical standpoint. In the first place, by the study of the etiology of the disease; in the second place, from the processes attending recovery, and, in the third place, from the results obtained by treatment.

By the term "infection" is meant any disease caused by the introduction of micro-organisms into the body from without, their multiplication, or by the ptomaines resulting from their growth, produce a poison. What the rheumatic micro-organism is, if one exists, or what is the nature of the poison it produces, still remains to be discovered, although its results are extremely well marked. It is undoubtedly miasmatic in its nature, for it lives without the body in soil or water, and in some way is introduced into the human system, possibly through the bite of a mosquito. As it is not eliminated from it in a condition capable of producing infection, it is not contagious. If rheumatism is the result of an infection, the nature of it is closely allied to the malarial diseases, and probably contracted in very much the same way, although not produced by the same poison, as stated by MacLagan.

Acute, subacute and chronic rheumatism, from their history, course and termination, probably result from one and the same infection, but not so with muscular, gonorrheal, scarlatinal and puerperal rheumatism, and rheumatoid arthritis, which should be considered as distinct diseases.

As infectious diseases are most frequently met with in certain localities, and

at certain seasons of the year, are influenced by occupation, surroundings, and to some extent by heredity, so are the rheumatic affections. There are no factors in the etiology of rheumatism which can not be explained on the ground of infection; in fact, some of the etiological factors will be difficult to explain, except on this theory. Its almost entire absence in some localities, as the Isle of Wight, and southern Belgium, and its appearance in portions of the temperate zone as endemic and epidemic diseases at certain times of the year, can be readily accounted for in this way.

Many who oppose this theory claim that occupation involving fatigue, with exposure to sudden changes of temperature, is its most active cause. But careful investigations show that the locality has to do with the attack. In other words, patients predisposed to rheumatism can with impunity expose themselves to fatigue and sudden changes of temperature in certain localities, and not in others, depending, perhaps, upon the presence of the infection.

Another stumbling block in accepting the infectious nature of the disease is the part that heredity is supposed to play. That it really does play an important part, as the cause of the disease, there is much doubt. Many are inclined to believe with Senator, that it is a traditional belief. Most writers place the hereditary disposition at from twenty-five to thirty per cent. This is misleading, as the disease occurs so frequently that it would not be at all surprising if the ancestors of at least one-fourth of all rheumatic patients had suffered from it. Those subjected to the same surroundings, the same air, the same soil, the same food, and the same water, contract different diseases. It is hard to explain this peculiar susceptibility to disease, except by hereditary disposition. To say that heredity imparts to the tissues, or organs, a certain disposition to act or react, according to a fixed morbid type, or that some of the nutritive processes are perverted by it, is merely to state a theory, and not explain the nature of it. If the etiology of the disease points toward its infectious nature, much more so does its natural course, and the processes attending recovery. The mode of invasion, the well-marked febrile disturbances, the transient but exceedingly active inflammation of several of the larger articulations, one after the other, and the great tendency to attack the serous membranes of the heart, suggest the introduction into the body of an active poison.

Perhaps the most marked of all the symptoms which point toward infection is the rapidity with which one articulation becomes inflamed and remains so for a brief period, and with a sudden recession of the inflammation, another articulation or the heart becomes invaded like a true metastasis. The special tendency to attack the serous membranes throughout the body has long been recognized as a selective action of the rheumatic poison. As the natural termination of the disease is to recovery—not more than three per cent terminating fatally—the human system must possess the power to neutralize or eliminate these poisons. A wide field is open for investigation and study of the processes attending recovery. Whatever may be the nature of the poison, or its action upon the blood, it produces in the system an acid, or acids, which have a tendency to neutralize the alkalinity of the secretions or to give them a hyperacidity. The acids formed are organic and compound in composition. Even the fluids of the serous cavities have been found with an acid reaction. Its ingredients are derived from the blood, and manufactured by the glands secreting them. That they do not exist in the blood in the acid state is shown by the increased alkalinity of that fluid during an acute attack of the disease. That it does affect the blood, however, is shown by its greater increase in coagulability.

One of the first signs of recovery from an attack of rheumatism is a lessening of the acidity of these secretions. The return of the alkalinity of the saliva, the cleansing of the tongue, the disappearance of its red, glazed condition, are usually the first and best indication that the patient is on the road to recovery. The next important sign is the increase in the quantity of the urine and the amount of chlorides, and the decrease of the acidity and sulphates. When it becomes alkaline and cloudy from the presence of

the phosphates, recovery is usually well advanced. A less important symptom attendant to recovery is a decrease in the amount and acidity of the perspiration. It is not uncommon to find a patient, apparently cured, with these conditions remaining, but as long as they last there is always danger of a relapse, for it indicates that the poisons have not been neutralized, or eliminated.

To attempt to explain how this acid is produced during the rheumatic attack, or if it is the cause of the rheumatic symptoms, would be theorizing. But reasoning from the analogy of the formation of organic acids in animals, it might, at least, result from the presence of a ferment derived from without.

From the nature of the disease, and the processes attending recovery, the treatment suggested would be, in the first place, the administration of such drugs which are at least theoretically antiseptic, with the object in view to destroy all micro-organisms or ferments in the blood. In the second place, by the use of alkalines, to neutralize, as far as possible, the production of the acids formed during the pathological processes; and, in the third place, remedies which lessen the coagulability of the blood. It has been stated that "bleeders" are not rheumatic subjects, never have attacks of the acute disease. If this is true, it would certainly point toward the third indication for treatment in carrying out Nature's processes in effecting a cure. The first attack of rheumatism usually results in complete recovery from all acute symptoms, and without any special tendency toward recurrence of the disease. Like malarial infection, repeated attacks leave the victim susceptible to recurrence, and a tendency for the disease to assume a subacute, or chronic form.

The term chronic rheumatic infection might very properly be used to designate this class of cases.

Acute articular rheumatism is a self-limited disease; when the poison becomes neutralized, or eliminated, the symptoms disappear, and do not recur, unless a re-infection takes place. Just how Nature gets rid of these poisons is not known. There are certain well-marked symptoms which can be relieved by the administration of drugs, but how far they go toward curing the disease is doubtful, and many patients are unquestionably made worse by their injudicious use. Nearly all writers acknowledge that the most heroic treatment has had but little effect in lessening the duration of the disease; that the average length of attack remains the same under all forms of treatment, and that complications and relapses are often greater when active measures are employed. An attack of malaria can be cut short by the use of quinine, for it is demonstrated that the micro-organisms which produce the disease are destroyed by it. But malaria is a self-limited disease, and terminates in recovery if not treated, and with no greater liability to relapse. Most of the infectious diseases run their course uninfluenced by treatment, except so far as the symptoms may be brought under control. How analogous is rheumatism to this. Why not classify it and treat it as such, study it from this point of view and, if possible, isolate the poison or micro-organisms which produce it? When this is done some remedy acting like quinine in malaria, may be used, which will prove a specific.

616 Madison Avenue.

[Written for the MEDICAL BRIEF.]

Digitalis, Its Use and Abuse.

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As a cardiac tonic digitalis stands pre-eminent. Its scientific application demands the greatest care as to its indications and limitations. In its employment we should maintain a correct conception of its physiological action, and of the pathological conditions indicating its use, and at all times should be governed by the personal history and idiosyncrasies of the patient.

The routine use of digitalis inevitably causes damage. Therefore, in every case before its administration we should satisfy ourselves, positively, as to the condition of the myocardium, whether the le-

sion present be functional or organic, determining the condition of the arterial system, and the eliminating power of the kidneys.

Digitalis possesses an exceedingly complex action. Not only does it exercise a tonic influence upon the pneumo-gastric nerve, stimulating nutrition, but more than this, it increases the energy of the heart muscle itself. The pulse is slowed, its force increased, and the arterial tension greatly raised. This action is produced by stimulation of the pneumogastric center, and terminal ends of the vagi. It is a mistake to expect this action to occur in the presence of high fever, because it has been conclusively demonstrated by Brunton and Cash that under such circumstances the vagi centers are already greatly depressed and irresponsive.

Digitalis is dangerous in all febrile diseases terminating by crisis. When the sudden drop in temperature, itself a cardiac stimulant, occurs, we obtain the full physiological effect of the digitalis, and the heart may be arrested in systole from over-stimulation. Consequently, in these cases, we should avoid administration of digitalis for the twenty-four hours before crisis occurs, and begin again soon after.

The increase in the pulse volume is due to the influence on the vagi; also, for the pneumo-gastric nerve being stimulated the diastole of the heart is fuller and complete, and occupies a greater length of time. Now, the result of this delay is that the ventricles become distended, and on contracting drive a much larger amount of blood through the aorta than is normally sent out. In other words, digitalis fills the coronary arteries almost to bursting, and so when the diastole occurs, not only floods the cardiac capillaries with blood, but prolongs the period during which the interchange between the blood stream and the tissues takes place. Therefore, before using digitalis we should estimate the condition of the coronary arteries. In cases where the patulency of these vessels is interfered with, either by coronary sclerosis, or by the muscular degeneration, the tremendous *vis a tergo* thus produced by digitalis would be disastrous. Not only would there be great danger of rupture of these vessels, but even if this did not occur their diminished patulency prevents proper nutrition; thus the remaining healthy fibers would soon degenerate, and fatal dilatation result. In such cases it is of greatest benefit to employ the rest treatment, and such agents as aconite and veratrine.

It is of imperative necessity to obtain absolute rest during the exhibition of digitalis, for its full effect. Not only to promote better nutrition, and relax arterial tension, but we realize that any sudden exertion on the part of the patient, made while the heart is highly stimulated, often produces sudden cardiac failure and death. Therefore, these patients should maintain the recumbent position.

The cause of the increased urinary flow produced by digitalis in cardiac dropsy depends entirely upon the removal of congestion of the kidneys, the increased arterial pressure, and improved circulation. Yet we should remember that in edema, dependent upon causes outside of the cardiac area, such as occurs in hepatic cirrhoses and chronic Bright's disease, with sclerosis, digitalis is not only useless, but positively harmful.

Again when used in full doses, where a tendency to arthritism exists, digitalis often excites spasm of the blood vessels of the kidney, and thus brings about suppression of urine. Digitalis should never be given in these cases before the influence of such tendencies, gouty, rheumatic and lithemic, has been amply antagonized by elimination and specific medication. Furthermore, renal insufficiency is an early and almost constant sign of chronic degenerative myocarditis.

It is in these cases that digitalis is of least value. Therefore, before prescribing digitalis it is absolutely necessary to adequately investigate the eliminative power of the kidneys. Not only do these renal conditions aid us in obtaining information concerning the condition of the heart muscle, but they also give us a needed insight into the ability of the kidneys to eliminate poisonous material, and especially drugs, both of which, if retained in the blood, produce damaging results. Upon this principle does the cumulative action of digitalis depend. In all cases we should proceed cautiously in its ad-

ministration, and if the flow of urine be decreased, stop it. Often it can be safely continued by stimulating elimination by high colonic enemata of warm normal saline solution. However, if hardened arteries, torturous retinal vessels, pulsating temporals, with an hypertrophied left ventricle, be associated with this renal insufficiency, we should take cognizance of the impending cardiac dilatation, or apoplexy, and eschew digitalis.

In some cases, barring acute inflammatory conditions and where fatty degenerative changes have not set in, digitalis combined with vaso dilators, opium, nitroglycerin and sodium nitrite, is not only useful, but exceedingly efficacious. It must be remembered that digitalis is a cardiac stimulant, from tonic to toxic dose, and although the pulse is slowed, this is not the result of cardiac depression, as some would have it.

Digitalis is misapplied in many cases because we are not careful to differentiate between organic and functional lesions. Where functional disturbances occur in elderly people with a high arterial tension, digitalis is contra-indicated. In functional disturbances, with palpitation, dyspnea and irregular pulse occurring in hysteria, neurasthenia, and from disturbance in the gastro-intestinal tract, associated with a soft, compressible pulse, digitalis is sometimes of benefit. These cases are dependent upon anemia, and the pneumo-gastric nerve becomes deranged because of the continual messages sent to it from the periphery for more blood. In these cases digitalis stimulates the vagus, and steadies the heart muscle wonderfully, but unless the cardiac stimulation is accompanied by dietetic measures, hygiene and increased elimination, the treatment is futile.

Organic disease of the heart, as a rule, can be differentiated by the previous history of the patient, the physical signs and associated disorders present.

In all cases of organic cardiac disease we should ask ourselves the following questions: (1) Are the tissues receiving their proper supply of nutrition? (2) Is the heart muscle strong enough to meet the demands placed upon it? and, finally, Can digitalis meet the requirements of the case? These indications are always, in general, to diminish peripheral resistance to increase the vigor of the ventricular contraction, and to relieve arrears of work in the form of residual blood in the cardiac chambers, and accumulation of serum in the tissues. From a therapeutic standpoint, it is of more importance to meet the demands of the first indication, prescribing according to the condition of the heart muscle itself, especially if it possess reserve tone, and to disregard the indications derived from the murmur.

If there is any general indication for digitalis it is cardiac insufficiency from overwork. We may base our conclusions on the fact that a heart muscle may be badly damaged without the presence of a murmur and, on the other hand, an extremely loud murmur may exist with the heart muscle fully competent. The important exception to the rule is, in marked mitral stenosis, where digitalis should be watched with great care.

Where we have a "systolic hemic" murmur from profound anemic, digitalis is to be used hypodermically. If given otherwise, derangement of the stomach is increased, which, acting through the sympathetic system, increase vaso constriction in the pulmonary system, and tricuspid insufficiency may result. This condition may arise from a dilated stomach, dilated transverse colon, hepatic congestive conditions, and the arthritic diathesis. If digitalis is to be used in these cases, we should first remove the congestive disorders by proper elimination. It is absolutely necessary to employ a previously-assayed preparation of digitalis. For a cardiac effect we should use an assayed tincture, because alcoholic preparations of digitalis contain the largest proportions of digitalin, the most active cardiac stimulant principle. When a diuretic effect is desired we should always employ the infusion, because of the digitonin and digitalein it contains.

Regarding the dosage of digitalis, the only guide we can have is pathological condition present, and the idiosyncrasies of the patient. Jacobi has shown that children stand relatively large doses of digitalis and bear them well. In all cases we should begin with small doses, and gradually increase the dose until its full effect is obtained. When this occurs we

should always drop to a minimum dose, and administer it every four hours, to get the tonic effect. Digitalis is slowly eliminated and, therefore, for a continued effect the dose must always be the minimum, at the same time we realize that no set rule regarding dosage can ever be formulated.

When general symptoms, such as delirium pallor, cold extremities, trembling, or contracted pupils occur, it should be stopped immediately.

Finally, bearing these facts in mind, we may give the indications and contra-indications as follows:

1. Digitalis is contra-indicated in acute cardiac failure, such as occurs in acute angina, shock and collapse, because of its slowness of action, as Bartholow expresses it, "we give digitalis today, and get results tomorrow."

2. Again, it is useless in acute inflammatory affections of the heart, because of the great strain placed upon the vessels' walls. In pericarditis, also, except temporarily.

3. In aortic disease, except when complicated by mitral regurgitation. If the pulse goes below eighty, or if free diuresis does not follow its administration in these cases, it should be immediately discontinued. Digitalis is not a suitable diuretic for chronic nephritis, though it is sometimes permissible in the acute forms, but it is absolutely contra-indicated if associated with arterio scleroses.

Digitalis is an uncertain diuretic at all times, unless the heart is affected.

It is contra-indicated in mitral cases where ventricular contraction causes increased dilatation.

Also in fatty changes in the kidney. In aneurism of the great vessels. In cases of high arterial tension from fevers and septic conditions.

Wherever atheromatous changes are marked.

Digitalis should never be used unless marked venous engorgement is present; if rest, diet, general tonics, combined with elimination, produce marked amelioration of symptoms, it is contra-indicated.

The indications for its use are as follows: In those cases of low arterial tension, characterized by pulsating jugulars, cyanosed face and labored breathing, such as occurs in simple failure of compensation.

In cases associated with a rapid, easily-compressible pulse, with cough, cyanosis, dyspnea and edema from septic conditions in tricuspid stenosis, is of great service.

It is most useful in mitral regurgitation, but the less the lesion approaches the edematous type the less good digitalis will do.

Sometimes the heart becomes embarrassed because of failure for the return flow of blood to supply the left ventricle.

In mitral constriction it usually is of great assistance, giving time for more blood to pass through the opening. Its action can be materially enhanced by relieving the right heart through the liver, by purging, and promoting elimination, with the maintenance of absolute rest.

In tricuspid regurgitation, or constriction, digitalis is especially valuable when we have a low-tension pulse, cough, dyspnea and general dropsy.

In aortic regurgitation, if used before compensatory hypertrophy has occurred, digitalis is indicated.

When compensation is perfect, it is generally injurious, allowing more time for the blood to regurgitate through the imperfectly-closed orifice, and increasing the danger of fatal syncope.

If aortic stenosis is complicated by mitral disease, digitalis is indicated, especially when accompanied by general venous stasis and peripheral anemia. Otherwise it is injurious.

In the "irritable heart" of soldiers, and in reflex disturbances from generative tract, intestines and stomach, digitalis does good by stimulating inhibition and steadying the heart, but should always be combined with treatment directed to the underlying anemia.

Congestive conditions in the lungs, unless the temperature is very high, indicates digitalis, but when consolidation is present, as in second stage of pneumonia, it is contra-indicated.

As a diuretic in scarlatinal nephritis, cyanotic in duration of kidney, and sluggish urinary secretion from feeble circulation.

Where simple failure of compensation occurs, and the heart can not meet with the demands sent in from the periphery

for more nourishment, and the pulse becomes weak and irregular, digitalis is the remedy above all others.

In conclusion, we should bear in mind that digitalis is both a useful and dangerous remedy, and has a very limited range of application; that it is capable of great harm by its contracting effect upon the arterioles, thus shutting off nutrition; that its effect is greatly enhanced by rest, diet, and by stimulating elimination; and that its action is more marked, both upon the heart and kidneys, in the presence of low arterial tension, venous engorgement, and obstruction to circulation; that the cumulation effect is not manifested when the drug is given in proper doses, and better elimination provoked, and, finally, its preparations differ widely in their composition and action, due to the complex construction; thus we should be exceedingly careful to obtain reliable physiologically-tested products.

Second and Chestnut Streets.

[Written for the MEDICAL BRIEF.]

Surgical Treatment of Hump Nose.

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It is exceedingly common to meet the condition of hump nose, and as the nose is one of the most prominent portions of the face, any deformity of it is conspicuous and distressing to its possessor.

We see several types of nose in which the bridge is unduly prominent. All of these are amenable to surgical treatment, and here in the very beginning of this article let me say that such surgical treatment is not only satisfactory and safe, but simple of execution, contrary to the impression which may be gained in reading the various steps of the operation.

The work can be done in all cases under the influence of a local anesthetic, such anesthesia not only making this work possible, but painless, so that the surgeon need not hesitate to recommend this plan to even the most timid of his patients.

Several plans of operation have been described during the last ten or twelve years. The one which appears the simplest is performed through an incision made along the median line of the bridge of the nose, but such a technic has the disadvantage of leaving a visible scar, and surgeons refrain from its use, owing to the fear that the scar will be unsightly, and as undesirable as the original condition.

This plan of cutting directly down upon the tissues to be removed, while it appears to be very simple, is no more easy of execution than the operation which is performed through one or both nostrils, and this latter plan precludes a subsequent visible scar.

Fig. 1.

The plan of removing redundant tissue from the bridge of the nose through the nasal vestibule is not a new one, and my reason for describing the operation is to impress upon my readers the facility and the certainty with which the tissues causing the deformity may be removed by this route.

The operation is one which may be performed without any assistance whatever, and any office can be equipped so that such work may be done with safety. As I have said before, cocaine anesthesia is all that is necessary, and a solution of this drug, if properly used, need not be stronger than one per cent. I have more often used a solution of one-half of one

per cent than the one per cent, and with such have secured perfect anesthesia of the field of operation, so that the patient subsequent to the operation admitted feeling absolutely no pain.

The parts about the nose should be cleansed with soap and water, and then mopped off with alcohol, and the vestibule of the nose cleansed with the soap and water. An antiseptic nasal spray or douche may be used in cleansing the entire nasal passages, but this is not imperative. The short, stiff hairs within each nostril should all be trimmed away with small scissors.

The operation will almost invariably be completed through one nostril, and the operator must decide as to which will be most convenient, and which will give him most perfect access to the mass to be removed. Many times, where there is a prominent nose, it will be deflected more or less to one side, and the nostril toward that side to which it is deflected will give most perfect access.

The cocaine solution should be first deposited over the bony or cartilaginous mass to be removed with a fine needle. The operator can then complete the injection with a rather large and long needle, placing it as close against the bone as possible. On the side of the nose through which the operation is to be performed the cocainization is to be affected at the juncture of the nasal bone with the soft parts. Care must be used here to make the injection sufficiently deep, and yet not merely to carry the needle into the nasal cavity. It is well in doing this portion of the infiltrating of the tissues to carry one finger of the disengaged hand into the nostril, so that the point of the needle can be felt immediately external to the lining of the vestibule. Unless this precaution is taken one is very likely, in his first case, to fail to properly infiltrate this area, and the first incision will be painful and alarm the patient. This may interfere with the entire operation, the patient being nervous throughout.

The first incision is made with a small scalpel, within the nose at the juncture of the nasal bones with the soft parts of the nose. The incision should run parallel to the lower margin of the nasal bone on the side selected, and should extend from the septum for about one-half an inch along the lower margin of the nasal bone. The tissues are somewhat tough, and the scalpel should be sharp, and care exercised not to allow it to penetrate the skin externally. Having carried the point of the knife into the loose cellular tissue beneath the skin, the operator may now either take a dissector and separate the soft parts up to the hump which is to be removed, or may select a narrow chisel, or gouge, and carry it through the tissues until it rests against the hump. In my own cases, I usually follow this latter plan, carrying the chisel as close to the bone as possible, until a point is reached where the section of the hard parts should begin.

One can never tell whether a hump is bony or cartilaginous, with any degree of

Fig. 2.

certainty, until an attempt is made to section it, so the first effort may be to simply gouge the mass away. If it is found to be bony, the mallet must now be brought into play, and with careful strokes the instrument should be driven beneath the hump.

In some cases the bone is hard and brittle, and the operator can readily tell that it is breaking into fragments. If this is the case, an attempt should not be made to chisel away the entire mass at once, but the chisel should be withdrawn as soon as the operator has reason to feel that a fragment has been separated, and a pair of hemostats, or a clamp, should be passed up through the wound, and the fragment grasped. As soon as the forceps have been locked upon the fragment, an

effort should be made to peel it from its periosteum and withdraw it through the wound.

If one will stop to consider they will see that the chisel has been forced into the prominence, and has thus passed beneath the periosteum. If the fragments can be grasped from below it will be seen that they are grasped beneath the periosteum. If they are gently twisted from the periosteum it will be left intact, and will be drawn down over the area operated upon. This preservation of the periosteum may not be of any importance, but I have always felt that it left a natural state of affairs, and was, therefore, worthy of consideration.

The chisel and forceps should be used in turn until the nose has been reduced to the proportions desired. There will be no shrinking of the parts as the result of cicatricial changes, so the deformity should be fully removed.

Fig. 3.

Fig. 4.

If the redundant tissues can not be reached through one nostril, the same plan of operation should be carried out

through the opposite nostril, and the tissues which interfere with the securing of a symmetrical nose removed. It may be necessary to chisel away a thin strip of bone from each side of the nose, so as to diminish any undue breadth of the bridge after the hump has been removed; while in a few cases it may be necessary to force the nasal bones together, after they have been broken or chiselled through, at their lateral attachments.

The bleeding which occurs during the operation does not, as a rule, interfere with the operation, as the blood runs through the nose into the throat, and the patient expectorates it. The bleeding, if apparently too free at any time, may be controlled by passing a strip of gauze, saturated with any unirritating hemostatic solution, into the cavity, the gauze being left in for a few moments and then withdrawn.

Fig. 5.

The bleeding should be controlled at the end of the operation, and then the cavity of the wound should be syringed out with a warm one to ten thousand solution of formaldehyde gas. This syringing should be thorough. The operator can have a blunt-tipped cannula to attach to the regular two-drachm aspirating syringe. I use the same syringe in infiltrating the parts with the cocaine solution in the beginning of the operation, merely removing the needle and replacing it with the cannula.

No dressing is imperative after the operation, and it is rather to satisfy the fears of the patient that plaster strips are applied. The soft parts fall together over the injured parts, and healing occurs rapidly.

No after-treatment is required. The tissues become somewhat swollen and ecchymosis may develop, which is fairly extensive, but this clears up rapidly. The patient is merely warned that the swelling and discoloration is to be expected, and that it will clear up in from three days to two weeks. It is not sufficient to detain one from business.

Fig. 6.

The entire operation is performed without haste in from fifteen to twenty-five minutes.

Fig. 1. Illustrates the condition under consideration. The hump is to be infiltrated along the dorsum of the nose, and

Fig. 7.

then the infiltration carried down the side of the nose to the limit marked by the dotted lines in the figure. The incision made within the nose to give access to the

tissues to be removed is situated at the point marked by the straight, black line.

Fig. 2. Illustrates the manner of beginning the operation, a small scalpel being passed into the nostril, and the tissues divided at the point shown in Fig. 1.

Fig. 3. Illustrates the manner of using a dissector through the nose, separating the tissues for the passage of the chisel or gouge. A free separation of the tissues over and around the hump is unnecessary, and merely increases the reaction.

Fig. 4. A pair of hemostats, or a clamp, will be found best for the removal of the

Fig. 8.

portions of the hump separated by the chisel. These are better than tissue forceps, as they can be firmly locked upon a fragment, and then the fragment may be deliberately twisted from beneath its pereosteal attachments; by so doing the covering of the bone is preserved and drawn down over the denuded area.

Fig. 5. Illustrates the manner of carrying a strip of gauze into the cavity of the wound for the purpose of controlling the bleeding.

Fig. 6. Illustrates the manner of syringing out the cavity of the wound with a warm antiseptic solution, at the completion of the operation.

Fig. 7. Shows the condition secured immediately after the operation in the patient shown in Fig. 1.

Fig. 8. The condition of the patient shown in Fig. 1 three days after the operation. It can be seen that the nose is swollen. The strips of adhesive plaster were removed in five days, and no other dressing applied. This patient also insisted on keeping the nose stuffed with cotton for several days after the operation. This did no harm and served to calm the patient's fears. The patient also submitted to operations for placing his ears closer to the sides of his head, both of these organs standing out at right angles to the sides of the head. I hope in a later article to describe this latter operation, which is easily executed with local anesthesia and without discomfort to the patient.

100 State Street.

[Written for the MEDICAL BRIEF.]

Drugs and Pneumonia Abortions.

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In a science as inexact as medicine must necessarily be always, differences of opinion naturally and logically follow, and it is to this diversity of ideas and counter-opinions and diametrically opposite practices that healthy growth and satisfactory development is due. Out of these controversies truth has been wrought and doubt deposed by confidence. Over the grave of every contention the violet of a purer form of truth has sprung.

There are many questions upon which the profession is divided today, and the abortive treatment of pneumonia is one of the most interesting. This subject affords perennial opportunity for the scribe to air his particular notions or hobbies. There are those who contend vigorously, and no doubt conscientiously believe, that this disease can be aborted. Pathologically, pneumonia is pneumonitis, and pneumonitis is inflammation of the lung structure. Inflammation, when estab-

lished, means exudation and transudation, it means the contents of blood vessels have gotten into perivascular structures, that native cells have proliferated, that there is determination of blood to the part and, later, obstruction to the circulation by the presence of the exudate. Until these changes have occurred in some degree, it is not inflammation. A man may talk with the owner of a farm, ascertain his willingness to sell, his price, the time convenient to give possession, the terms of payment—and then decide not to buy. We could not speak of the matter as a sale though all the preliminary steps necessary to this sale were made. He must agree to buy it and deeds must be given, and money or other considerations must be had before it is a sale. Likewise there may be a germ on the ground willing and able to locate and procreate its kind; there may be a lung in a receptive condition for this colony, the effort may be made, but the vitality of the patient or some extraneous factors may prevent the growth, or bring about the death of the germ. Then it is, nor was, not pneumonia. The location of the micro-organism, the moisture, the warmth may all have been promising of a fruition of a microbe's hopes. When the germ is arrested in the tissues it acts as a mechanical and chemical irritant; this arouses Nature and arrangements are made for a conflict. Blood vessels dilate, leucocytes hasten to the scene to oppose a threatening invasion, but as yet there is no inflammation, and unless the process continues, and an attempt is made to form a protective wall limiting and circumscribing the invader, there is no pneumonia, but rather pulmonary congestion. Now, clinically, who can say that a given case would have been a pneumonia if certain drugs had not been used, for it can not be diagnosed until the physical signs are present, unless the lung was accessible, and a macro- and microscopic examination could be made previous to the appearance of these signs. We can not diagnose diphtheria until the membrane appears and such examination is made; when we do and find the Klebs-Loeffler bacillus present, and use antitoxin with a speedy recovery, do we assert that we have aborted diphtheria? If there is diphtheria in one child in a family, or in a hospital ward, and immunizing doses of antitoxin are used on the other children, with the result that it does not develop in those children, do we say we have aborted diphtheria?

Upon what basis of physiological action do drugs act beneficially in any inflammatory condition? They may either oppose specifically the germ and produce its death or render it harmless, or they may lessen inflammatory, changes thus mitigating or shortening the course of the disease.

Pneumonia is a micro-organic disease, and, as yet, we have no specific drug or serum. Our treatment, then, rests on two lines of action, one to promptly appreciate and combat symptoms as they arise, the other to use such drugs, if there are any, which lessen inflammatory changes anywhere. Ergot has been vaunted as one of the several abortive drugs in pneumonia. What is the physiological action of ergot? It may be said, in brief, that the only influence for good here is manifested on the circulatory system. It stimulates the vaso-motor system, which causes a tonic contraction of the unstriped muscle fibers of the arterioles; there is a primary fall of blood pressure in the face of this, due to the influence of the drug on the heart, causing it to beat slower. This is followed by a secondary rise of tension, due to the continued and overbalancing action on the vaso-motor system. This state of tonicity of vessel walls will, necessarily, lessen the exudation of the fluid elements of the blood, and the transudation of the cellular elements. By this power it might lessen the massiveness of a pneumonic condition, but does not stop, or to use the favorite expression of our friends, abort it.

Salicylic acid, another one of the so-called abortives, ultimately depresses the heart and renders the pulse slow and of low tension, though primarily causing it to beat faster and stronger. It also, and here is the only beneficial effect it can possibly have in pneumonia, restrains the migration of the white cells and prevents fibrin formation. It has an antipyretic action, and it lessens the pain and swelling of, perhaps, any inflammation, but

has no specific influence in medicinal quantity on any micro-organism.

Guaiacol, in any of its forms or under any of its trade names, also possesses antipyretic properties, partly through its diaphoretic and diuretic properties. It is chiefly eliminated by the sweat and urine in the form of a salt of ethyl-sulphuric acid, and hence must combine with albuminous bodies in the blood and, perhaps, chiefly through the sulphur present in the albuminous molecules. It lessens the plasticity of the blood, though less so than the preceding drugs. It is but slightly eliminated by the lungs and, therefore, its antiseptic influence must necessarily be small in pneumonia.

Why those Don Quixotes have not urged the use of cinchona for the same purpose is puzzling, as it remarkably affects the constituents of the blood. It arrests the ameboid movement of the white blood corpuscles, preventing their migration through capillary walls in inflammation, and diminishes their number when given in full doses, both in health and in inflammatory conditions. The size of the red cells is lessened in febrile conditions, and the oxidizing powers of the body impaired, as the oxygen-carrying capacity of red cells is naturally lessened.

Let us not be misunderstood, however. Some drugs will prevent, some will cure, and others will merely mitigate, disease. The therapy of pneumonia is the latter only; and while we urge there is no specific for pneumonia, we are not counseling therapeutic nihilism, for it is absurd to declare that medicinal treatment is valueless, but the temptation to over-treat is to be remembered, and the tendency to spontaneous recovery must not be forgotten. We believe that some of the gastric distress, cardiac weakness, albuminuria and other untoward symptoms may be, sometimes, due to the energetic dosage of creosotes, digitalis, salicylates, etc.

We plead for individualization in the therapeutic management of this affection, and also for the relegation of such misleading and unscientific terms as "abortion of pneumonia."

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[Written for the MEDICAL BRIEF.]

The Conjunctiva and Its Diseases.

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The conjunctiva is subject to very many diseases, and there are more of this class than any other variety. They are also extremely dangerous, not so much in themselves as in the danger to the cornea from subsequent alterations in that tissue. Severe inflammation of the conjunctiva of the purulent variety is very liable to attack the cornea, and there the danger lies.

The two varieties which are sure to come under the observation of the physician, and which will require a great deal of care and discrimination on his part to treat, are ophthalmia neonatorum and gonorrheal ophthalmia.

Ophthalmia Neonatorum.—This disease begins usually at the second, third and sometimes fourth, day after birth. It is due to an infection acquired by the child in its passage through the vagina. In these cases the infection may be more or less virulent, depending upon the character of the micro-organism which attacks the conjunctiva. In many cases the physician will not infrequently be embarrassed in trying to discover whether he is dealing with a gonorrheal infection or not, and it is often a difficult question for the doctor to decide, but when he has evidences of inflammation, and when the pus shows gonococci, the diagnosis is complete.

I do not believe there is any satisfactory way of preventing the occurrence of this disease. Washing out the vagina with some one of the various solutions immediately before delivery is not very satisfactory, for the reason that it removes the mucus which naturally lines the vagina, and leaves the latter, in a measure, dry, so that a dry labor follows. The mucus is important for the delivery of the child, and is needed as a lubricant for the passage to enable the child's head to pass easily through the vagina. Still, this measure has been advised in some cases, and I do not think it a bad idea

where there is positive evidence of specific infection, to irrigate the vagina with a weak solution of bichloride of mercury some hours before delivery, so that the natural mucus will have time to reform before delivery takes place.

The incubation stage occupies from one to two or three days. The first warning is given in the redness and swelling of the baby's eyes, followed by a little watery discharge from the lids. In the course of another twenty-four hours the lids are thick and swollen, the discharge becomes purulent, and in the more severe cases it is of a creamy consistency. As the disease progresses the discharge becomes more abundant, and the pus secretes so fast that it escapes from between the lids. At the same time that the lids become swollen and colored, the conjunctiva is edematous, standing out like a wall, and very much elevated. This is one of the most dangerous conditions which the physician is called upon to treat. Perhaps twenty-five per cent, or even more, of all the cases of blindness are caused by ophthalmia neonatorum, but I am glad to say that in my experience I have noted a very great lessening in the number of these cases in the past twenty years. This is due to two things: First, the intelligence of the physician who treats the cases, and, also to the fact that nurses and midwives are better trained than they were years ago. Sixty-five per cent of the deliveries in Cincinnati are done by midwives, so that upon them rests the responsibility of recognizing these cases. Some years ago a bill was passed by our Legislature making it necessary for midwives in this State to pass a certain examination. They were instructed how to treat these cases in the beginning, and when unable to do so, they were required by law to call in a physician immediately. Circulars were sent to all the midwives, and I doubt not they did much good.

Much of the trouble is due to carelessness on the part of the physician; not so much as formerly, perhaps, but at the present time we see occasional exhibitions of gross carelessness on the part of the physician toward the new-born babe. He will inquire carefully about the mother, ask if the baby is all right, and accepts the nurse's statement, without taking the trouble to examine its eyes. I saw a case of this sort which was brought from a neighboring city last week. The doctor delivered the child, and did not see it again for five or six days, accepting the assurance of the nurse that the baby was all right. Some friends noticed that the edges of the lids were swollen, and that there was some watery discharge. When the doctor's attention was called to it he found a case of purulent ophthalmia. When I saw the case there had been perforation of the cornea of one eye, and there was a central opacity of the other cornea, although no perforation had occurred. There is a child with one very imperfect eye, and one moderately imperfect one, where it should have had perfect sight if the doctor had done his duty.

When the baby is born the face and head should be washed first in sterile water, paying particular attention to the eyes.

Years ago from fifteen to twenty per cent of children born in hospitals developed purulent ophthalmia, this percentage has now been, happily, reduced to one per cent, or one-half of one per cent. In some hospitals it has been reduced to zero. This is due to the introduction by Credé of the use of a two per cent solution of silver nitrate, dropped into the eyes of all babies, whether there is a suspicion of infection or not. This, of course, creates a very decided reaction, and while I think it rather cruel to treat a child on suspicion, in large lying-in hospitals it is a safe thing to do. Needless to say, this course can not be followed in private practice, nor is it at all necessary. If the physician will watch his case for two or three days he is prepared to treat the eyes at the very first warning of disease. If, on the first or second day, there is some discharge from the lids, evert them, and see what the condition is. There will probably be a little swelling of the conjunctiva, probably slight chemosis; this is the time to begin treatment to destroy the gonococci. At this time a solution of one or two per cent silver nitrate brushed over the conjunctiva, and carefully washed off, will probably end the matter; but, of course, treatment must be con-

tinued until all signs of inflammation have passed.

The eversion of the lids is not always an easy matter, but with a little skill and care it can be done. If the disease has already set in, and the lids are swollen, the use of cold applications is very valuable. These applications are very grateful to the little patients, as the restless rolling of the head from side to side will cease, and they become quiet under the effect of the cooling compress.

If the discharge is abundant the conjunctival sac should be washed out every one or two hours, to neutralize the secretion as fast as it forms. The silver nitrate penetrates into the conjunctiva, and destroys the gonococci which have penetrated that membrane. At the end of three or four days, when the inflammation subsides and the swelling diminishes, the eyes may be treated less frequently, depending upon the severity of the attack. The cold applications should be continued three or four days, after which they will hardly be necessary, and if the case goes on to recovery the lids soon resume their normal condition, and the discharge ceases.

Many remedies have been used, from time to time, in this treatment, but the one which has enjoyed the greatest confidence for many years is the silver nitrate. It can be used in a two per cent solution, but if the case is far advanced, the conjunctiva very much thickened, and the surface so vascular that it bleeds when the lid is everted, I use a strong solution, twenty grains usually. I take a toothpick, wrap cotton around it, dip into the solution, and pass this over the bleeding surface, afterwards carefully washing it off with water. In the milder cases I would use silver nitrate, one grain to the ounce, but in the decidedly purulent ones I would use the stronger solution.

Another very excellent remedy is the permanganate of potash, one one-thousandth or weaker, one two-thousandths, or one five-thousandths. I have used this remedy frequently, although not so often as the other remedies.

In the purulent cases I have also used hydrastis sulphatis (yellow), five grains to the ounce, with good results. A few years ago I had a patient, a small boy, with purulent ophthalmia, which he contracted in a very strange manner. He was struck with a snowball, and soon afterward developed the ophthalmia, but just how the infection occurred no one knows. When I saw him the left eye was very seriously inflamed, the cornea ulcerated and perforated, and the disease was already beginning in the right eye. I treated him as outlined above, and with cold applications, silver nitrate, etc.; still it went on and the other eye became infected. One eye was entirely lost and ulceration of the cornea began in the other eye, and I was greatly distressed about it. I ordered the hydrastis solution to be used. My assistant stayed with the patient all night. The solution was used locally every two hours, and the next morning the eye was better. He made an excellent recovery, and has one good eye, and the scar of the ulcer is scarcely noticeable. I attribute his recovery to the hydrastis.

Complications frequently follow these cases, and are easily detected. In case of corneal ulcer the cornea is open to infection, and the case is likely to grow more serious. When this condition exists, with threatened perforation, the cornea must be treated with great care, as an attempt to evert the lids may, by pressure, rupture the corneal ulcer and cause prolapse of the iris. It is better, in these cases, not to resort to eversion of the lids, but to trust to the application of remedies in the conjunctival sac, so that the solution will flow over the globe. A slight pressure might not only cause a rupture of the ulcer, but an escape of the crystalline lens.

For corneal ulcers, one may use a weak solution of silver of nitrate, one grain to the ounce, or iodoform dusted on the cornea two or three times a day. I also use permanganate of potash, because of its very decided antiseptic qualities. After the inflammation subsides and the corneal ulcer clears up, the lids may be everted, and the silver nitrate solution used as described.

Gonorrheal Ophthalmia.—Here we have adults to treat, and a more vigorous course can be carried out. The first point is to determine whether there is an urethral infection. In severe cases I usually

put the patient to bed, and keep him there for three or four days. Cold applications are most satisfactory. They must be cold and not lukewarm. Three or four gauze pads are placed on a block of ice, and each pad is removed from the eyes and replaced by one from the block of ice as often as necessary to maintain cold uniformly. If this uniformity of cold is not maintained the result is much the same as if a poultice had been used.

Treatment is much the same as above described. I use silver nitrate in these cases, using antiseptics every two or three hours, to clear out the conjunctival sac. In the event of threatened ulcer, I treat the eyes by means of instillations into the conjunctival sac, and dust iodoform on the center of the corneal ulcer, or drop a weak solution of silver nitrate directly upon the cornea. Atropin does not accomplish much in these cases, and can do no good unless an iritis sets in, and iritis may set in in the latter stage. If there is ulceration at the periphery, the use of atropin will be likely to bring about a large prolapse. After the more acute stages have subsided, and the ice applications are discontinued, the patient will be allowed to sit up, but the irrigations of the conjunctival sac must be continued until the discharge has ceased.

There is a form of purulent ophthalmia associated with a vaginitis, which occurs in little girls. I have occasionally seen cases in girls of three, four or five years of age. The question is how did they contract the disease? In some cases doubtless from women who had vaginitis, from soiled clothes, from bed clothes, etc. In these cases to prevent gonorrheal infection of the eyes, the hands must be controlled. I mention these cases because they might be the subject of medico-legal investigation, to determine whether the child had been tampered with or not.

In cases of purulent ophthalmia I always give this advice:

Examine the eyes of the baby every day; do not wait, and do not take the nurse's word for it.

Also take time to examine the eyes properly, it may save you a great deal of trouble. If the baby's eyes become inflamed the doctor will be blamed for it, and, in a measure, he is responsible for allowing that condition to arise.

Equally important is the method of washing the baby's head after birth. See that the baby's eyes are washed with water that is sterilized, that no unfavorable conditions exist, and in that way, anticipating trouble, you will be able to bring your cases through very satisfactorily.

4 W. Seventh Street.

[Written for the MEDICAL BRIEF.]

Puerperal Fever.

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All septic infections not occurring from laceration and injury of the vulva and vagina, begin as a putrid or a septic endometritis, the symptomatology and treatment of each being distinct.

A putrid endometritis occurs as a result of retained membranes, placenta, blood clots, etc., with defective involution of the uterus; a saphrophytic infection takes place, and the absorption of toxins produce a train of clinical evidence that is unmistakable, if it is looked for by the attending physician.

These symptoms are: A rise in temperature and pulse, chills or chilliness, etc., of which pulse rate is most important, as a rise of pulse during the first four days of the puerperium is always significant of some degree of absorption. The local signs are increased size or arrested involution of the uterus, and bogginess and tenderness of the uterine body.

On vaginal examination, the cervix is found open, and an intra-uterine exploration with the sterile fingers will show the endometrium roughened, particularly at the placental site, and the fingers will be soiled with fetid debris. The lochia has more or less fetor, and is usually profuse. A profuse lochia continuing for over forty-eight hours after labor is always signifi-

cant of retained blood clot or faulty involution.

With such a train of symptoms and physical signs, the treatment should be digital curettage; there is always danger in introducing an instrument into the soft, folded, septic uterus, and the loose masses of debris can be readily removed with the fingers in the uterus, while the external, or the suprapubic hand, presses the uterus against the intra-uterine fingers. Instrumental curettage only tends to spread infection, by breaking through the protective zone of leucocytes. This should be followed by a quantitive douche of hot saline solution, and the uterus left unpacked and encouraged to retract and contract by the administration of ergot or ergotin, preferably hypodermically, every four to six hours. By maintaining a firmly retracted and contracted uterus the greatest resistance is afforded against septic invasion, and perfect drainage is maintained.

Infection spreading from the uterus, of saphrophytic origin, travels, as a rule, either by continuity or contiguity, viz., through the tubes to the peritoneum, or as a metritis, or a perimetritis to the peritoneum. Consequently, after the uterus has been thoroughly emptied of the septic nidus, and yet the patient shows no signs of improvement in the next twenty-four hours, it is advisable to isolate the uterus, and so arrest further invasion of the peritoneum, by broadly opening the posterior *cul de sac*, under the most rigid asepsis, freeing the tubes and separating any existing adhesions, and loosely filling the *cul de sac* with rolls of ten per cent washed iodoform gauze. This arrests further intoxication, and gives the peritoneum an opportunity to isolate the pelvis by the production of a plastic exudate. In this way the pelvic peritoneum is practically separated from the general peritoneal cavity, and treated as a walled-off pelvic abscess. On the other hand, when the infection is of streptococcic origin, the micro-organisms have gained entrance to the economy through some laceration or abrasion of the cervix, or through the lymphatics in the broad ligament which drains the relaxed and traumatized cervix. The local symptoms, in a straight streptococci infection, are more or less negative. The uterus may not be enlarged, the lochia may be changed, and it must be noted that the *more virulent the streptococcic infection the more marked is the absence of odor.* On the other hand, the general symptoms are more pronounced—there is usually a chill, high temperature, rapid pulse, hot, dry skin, headache and diminished secretions, with more or less toxemia and prostration. The uterus is usually found empty, the endometrium smooth and secreting a muco-purulent secretion, in which streptococci or staphylococci may be demonstrated.

This class of cases should not be curetted. Any instrumental interference only tends to aggravate the condition. These cases are better treated by isolation of the uterus, as is done in the previous class of cases, with no intra-uterine attention, except one single intra-uterine douche, and sustaining the general system with strychnine, whisky, quinine and ergot, and diluting the toxins, as well as increasing the eliminative powers of the kidneys by blood washing with large quantities of normal saline solution, introduced through the veins, skin or colon, as the case may require.

287 Clinton Avenue.

[Written for the MEDICAL BRIEF.]

Anesthetics.

BY F. E. MANKER, M. D.,

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The term anesthesia, proposed by Dr. Oliver Wendell Holmes, means an agent capable of producing insensibility to pain, with simultaneous loss of consciousness. From time immemorial the prevention of pain in surgical operations has been an object of anxious solicitude with surgeons, and we find that suggestions have been made from time to time at different periods, with a view of meeting this end. Notwithstanding these various attempts to prevent suffering in surgical operations, no anesthetic agent was discovered until 1844, when Dr. Horace Wells, Hartford, Conn., rendered himself unconscious by breathing nitrous oxide gas (the same thing Sir Humphrey Davy experimented

with), and while in that condition submitted to the extraction of a tooth. Dr. Wells repeated his experiments before the medical faculty and students, but lamentably failed.

In 1846, Dr. Morton, another dentist, and pupil of Wells, resorted to inhalation of sulphuric ether, first in his own person, then to a patient in the Massachusetts General Hospital, who was about to undergo an operation for the removal of a tumor. The result was all that could have been desired. The news soon spread, both in the United States and Europe. This led to the discovery of the use of chloroform by Sir J. Y. Simpson, of Edinburgh, in 1847.

The statistics are very much in favor of ether as regards safety.

Whatever anesthetic is employed, certain precautionary measures should be employed. In fatty degeneration of the heart great care should be exercised, but if the operation is necessary this should not exclude the anesthetic. The patient must be placed in recumbent position. Any tight clothing around the throat or waist should be removed or loosened. No solid food should be taken for three or four hours before the anesthetic is given. Remove false teeth. If much depressed, a little brandy is good. A hypodermic of morphine allays fear. Begin gradually, so as not to alarm the patient. All noise should be avoided, as it tends to produce undue excitement, and delay the induction of insensibility.

How anesthetics act on the body is not yet determined, although it is pretty certain that the ultimate result is absolute paralysis of the nerve centers, cerebral and spinal. The first effect on the nervous system is excitation, usually pleasurable, pupils dilated, pulse quickened, sensibility blunted; second, insensibility to pain and complete unconsciousness, muscles relaxed, patient lies perfectly quiet, pulse weak but normal in frequency, pupils contracted; third, profound narcosis, stertorous breathing, pulse rapid and weak, temperature falls.

Death may result in three ways—from coma, asphyxia, or syncope, or a failure of either foot of the vital tripod, brain, lungs or heart.

The course to be pursued whenever death appears imminent during anesthesia is: The inhalation must be immediately stopped, and to supply the patient with fresh air a window should be opened. Should there be fluid in the mouth, he may be turned on the side, but should not be raised from the recumbent posture. Artificial respiration may be resorted to, the patient inverted and gouged in the ribs. The tongue should be drawn out with artery forceps, or tenaculum, to insure opening of the larynx. Electricity may be employed over the region of the heart and diaphragm, or along the spine. Cold water may be dashed over the face and chest, with friction to the extremities. Finger should be introduced into the rectum. When the danger is over a little brandy may be given, and the anesthetic administered again with great caution.

Any person fit for an operation is a fit subject for an anesthetic. The cases requiring the greatest vigilance are not the young and delicate, for whom a small dose suffices, but the strong, who inhale deeply and struggle much.

Ether is probably better for those suspected of fatty degeneration of the heart, as it is a heart stimulant. In phthisis give them, if necessary, as in operations on jaws, teeth, lips, etc., but in operations on the globe of the eye anesthetics are open to objection from the damage which the eye may undergo from straining in vomiting.

The rules of the Royal Medical and Chirurgical Society are as follows: Anesthetics should on no account be given carelessly, or by the inexperienced, and when complete insensibility is required the attention of the administrator should be exclusively confined to the duty he has undertaken. An anesthetic should not be given after a long fast, or soon after a meal. No objection to patient having a little brandy if much depressed, or ammonia or wine. Sudden elevation or turning the body is dangerous, and the erect posture induces syncope. Chloroform should be given slowly, and a sudden increase in the strength of an anesthetic is most dangerous. Three and one-half per cent is the average amount; four and one-half per cent with ninety-five and

one-half per cent of air is the maximum of the anesthetic which can be given.

The physician is to be guided by the effects produced rather than the amount exhibited. The administrator must watch the pulse and respiration. When patients hold their breath, more air must be admitted; when movements of swallowing are seen the anesthetic is too strong, and when stertor occurs fresh air is needed. If patient shows signs of vomiting at beginning, the anesthetic must be crowded, so as to bring under influence at once.

The A. C. E. mixture must be given in the same way as chloroform. Chloroform is best given by pouring a drachm on a folded handkerchief, or napkin, or Esmarch inhaler, held at first three inches from the nose, then may be brought nearer, but never allowed to touch, as it may blister or irritate the skin. This is not as safe as ether, and is dangerous from too great concentration of vapor. There are various inhalers, but the Esmarch is probably best, and then chloroform is to be given drop by drop.

124 W. Washington Street.

[Written for the MEDICAL BRIEF.]

The Treatment of Inguinal Hernia.

BY JOSEPH RILUS EASTMAN, M. D.,
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Any patient, at any age, with inguinal hernia of any size, is constantly exposed to some danger of strangulation. The wearing of a truss is never quite agreeable, especially in summer, when, owing to excoriation of the skin, it becomes very annoying, and sometimes actually painful. Individuals depending upon a truss to close the external abdominal ring can never enjoy that sense of security and strength which intact abdominal coverings provide. The chief argument against the truss is, however, that so long as it must be worn the danger of fatal strangulation is always present. There is no age limit beyond which the radical operation for the cure of inguinal hernia may not be made. Great physical decrepitude, which may come with old age, should, however, be regarded as a contra-indication to the radical operation. To one merely old, however, the relief of radical cure need not be denied.

It is in children that truss treatment, as a routine practice, may be seriously considered, since, perhaps, two-thirds of all cases of inguinal hernia in children under four years of age get well under treatment by the truss. This, however, in the very large majority of such cases, should be regarded as spontaneous cure, and not as a truss cure. The best that can be said in behalf of the truss in such cases is that it arrests the descent of the hernia at the external abdominal ring, thus preventing an increase in the size of this opening, and, in addition, protecting the individual, no doubt, to some degree, against strangulation. It should be noted, however, that a large number of surgeons, both in this country and abroad, are now advocating operation as the primary method of treatment in infants. Coley, who advocates truss treatment in children, enumerates the following important exceptions. He says:

1. If there is a history of strangulation that has become reduced by taxis, I believe that an operation is indicated, no matter how young the child.

2. In cases in which, despite carefully directed truss treatment, the hernia has become irreducible, I think early operation should be advised.

3. In cases in which the rupture can not be controlled by a truss, and, as a consequence, is gradually increasing in size.

4. In all cases of femoral hernia; the reason for prompt operation in this class being that a cure by persistent truss treatment is practically unknown at any age.

5. Immediate operation is indicated in all cases of hernia associated with reducible hydrocele, or fluid in the hernial sac; inasmuch as it is impossible to control the rupture by means of a truss, and there is, hence, nothing to be gained by waiting.

With the development of aseptic surgical technic, the radical cure of irreducible hernia has become so safe that it is not easy to understand why any surgeon should oppose operation at any age, except in those cases in which unusual physical weakness positively contra-indicates any operation, however slight. In other words, it is not easy to understand why

any conditions, other than those which would contra-indicate any surgical operation of the same slight degree of severity should be held to contra-indicate the radical operation for hernia. Recurrences are extremely rare and fatal terminations almost unknown after *interval* operations. Years ago, Desault said, "You can always look for success in a hernia which has not been tampered with before operation."

In children, unless the hernia be quite large, the principle applied by Dr. Ochsner in femoral hernia may be followed with perfect safety; that is, the operation should consist simply in carefully dissecting out the sac, ligating it as high up as is possible, cutting away the sac and permitting the stump to retract through the internal ring, and closing the wound in the skin, with no attempt whatever to reduce the size of the external abdominal ring, or deal with muscles or fascia. Indeed, in cases of small hernia in adults, it is doubtful whether simple ligation and removal of the sac will not nearly always suffice to effect a cure. The step of introducing buried sutures, to narrow the external ring, may well be omitted in many small inguinal hernias of adults, with perfect safety. This applies only to those hernias in which there is little or no deformity or disarrangement of the muscle layers. Such cases as this, however, are not so rare as might be imagined. It is well known that almost any method or any surgeon, if cleanliness be observed, and the sac completely removed, will suffice for the cure of small inguinal hernias.

The preparation of the patient for the radical operation for hernia should differ in no way from that of patients about to undergo other serious operations, with the exception that such patients as are very fat should, as has been recommended by Ochsner, be placed, if possible, upon a systematic course of treatment for the reduction of this fat before the operation is performed.

Various lines of incisions have been presented for the exposure of the parts concerned in inguinal hernia; but, after all, what is desired is that the incision be so placed and sufficient in length to expose freely and readily the site of the internal and external abdominal rings. After the skin and superficial fat are divided, the few vessels, chiefly veins, should be clamped and cut between artery forceps. A large area of the aponeurosis of the obliquis externus muscle may now be exposed by gauze dissection. There need be no hemorrhage at all during this procedure. The external oblique fascia is divided parallel to its fibers, and freed by blunt gauze dissection from the tissues beneath for about an inch from the cut edges. The border of the obliquis internus, the sac of the hernia, and the cord covered at the lower angle by the cremaster muscle, are thus exposed.

The index finger may now be passed under the cord and sac distal to the external abdominal ring, and elevated so that with gauze the cord may be wiped away from the sac. There is no easier and surer way to separate cord and sac than to do this by wiping, so to speak, the cord away from the sac, and occasionally clipping with the scissors such thin webs of fascia as may be developed as one proceeds with such gauze dissection. When the sac is entirely freed, to the highest possible point, it should be freely opened, and if the reduction of contents may be facilitated by so doing, the sac should be split clear to the neck. After the reduction of devitalized contents, or removal, as may be necessary, the sac may be conveniently ligated at the highest point by twisting it to a slender stalk. As this twisting is executed, intestine and omentum are forced out, and are prevented from slipping into the neck to be caught in the transfixing needle. By this twisting of the sac, all of the slack of the peritoneum is taken up, so that when the ligature is applied, and the sac cut away, the stump springs back through the internal ring, leaving no pocket to favor a recurrence. If a distinct varicocele exist it will always be advisable to excise at least a part of the veins of the cord.

As to the transplantation of the cord, it seems to be a matter of relatively little importance whether it is transplanted or not. Surgeons seem more and more inclined not to transplant it. In somewhat more than one hundred Bassini operations for inguinal hernia, I transplanted the cord, and had no reason to regret it, but latterly have not transplanted the cord, and have had results as good as in

those in which the cord was transplanted. The method of drawing the internal oblique abdominal muscle and transversalis to the ledge on the under surface of Poupart's ligament over the cord closes the inguinal canal firmly and permanently, and leaves the tissues of the spermatic cord undisturbed.

In an examination of twenty-nine male and twenty-five female normal adult cadavers, Drs. A. H. Ferguson and R. C. Turck, of Chicago, finding the average length of attachment of the internal oblique to Poupart's ligament to embrace the outer two-thirds of the ligament, stated their belief that a smaller extent of attachment greatly favored the development of an oblique inguinal hernia, through taking away one of the anterior supports of the internal abdominal ring. Most anatomists, for example, Gray, Henle and Eisendrath, found the internal oblique to be normally attached to the upper half of Poupart's ligament only. However this may be, Dr. Ferguson's observations in this direction led him to develop his so-called anatomic operation of attaching the internal oblique to Poupart's ligament over the cord, leaving the cord untorn from its bed upon the transversalis fascia, and at any rate the practice of Ferguson's operation has convinced many that it makes very little difference whether the cord is transplanted or not, and thus this apparently unnecessary step has been quite generally dropped.

Dr. Ferguson originally used a running suture of carbolized catgut to unite the internal oblique to the ledge under Poupart's ligament. He also used a running suture of such catgut to close the slit in the aponeurosis of the external oblique. Most surgeons, however, who employ the Ferguson method, use interrupted sutures of chromic, or iodized, catgut. It will be seen that the Ferguson operation aims to restore normal anatomic conditions by the union of the internal oblique and transversalis to Poupart's ligament, in front of the cord.

The original Bassini operation, as is well known, sought to strengthen the naturally weak posterior wall of the inguinal canal by suturing the internal oblique and transversalis muscles to the inner aspect of Poupart's ligament behind the cord.

Coley reduced the space left at the upper angle of the wound for the passage of the cord and its vessels by inserting a suture above the cord, thus slightly modifying the original method.

In the so-called imbrication, or lap-joint operation, of Dr. E. Willis Andrews, a third layer is added to those which are placed behind the cord by the Bassini method; that is, with kangaroo tendon mattress sutures the inner portion of the external oblique aponeurosis, internal oblique, and transversalis are all drawn deeply under Poupart's ligament, while the cord is held up. The cord is now dropped upon the fascia of the external oblique, and Poupart's ligament is sutured over it, so that the cord now lies in a new inguinal canal, whose posterior wall has three layers, one of which is the powerful aponeurosis. Its anterior wall is composed of one layer of the same strong character. The Andrews operation is strongly advocated for use in cases of large hernia of long duration, where there is marked muscular defect, and a large internal ring.

Halstead originally sewed all layers, including the external oblique, to Poupart's ligament, behind the cord, but placed no protecting fascia in front of the cord, and funiculitis was a common sequela. The present Halstead operation, in use at the Johns Hopkins Hospital, leaves the cord in its bed. The veins are ligated when large, and the vein stump dropped back. The suture with which the hernial sac is ligated is carried far out under the internal oblique muscle, passed through this muscle, and tied. The cremaster muscle is now drawn with mattress sutures of black silk to the posterior surface of the internal oblique. The edge of the internal oblique, as well as the anterior sheath of the rectus at the lower angle, is now drawn under Poupart's ligament with similar sutures and, lastly, the external oblique edges are overlapped, as in the Andrews' operation. It will be seen that Halstead buries black silk. He claims that the black silk is more readily seen against the tissues than white silk. It is also claimed that the aseptic technic at Johns Hopkins Hospital is such that it has not been

found necessary to remove these sutures. Halstead closes the skin wound with a subcuticular silver wire stitch, and applies a silver foil dressing. To secure immobility, the patient is placed in a plaster of paris cast, extending from the umbilicus to the knee, on the involved side. This elaborate method of suture used by Halstead appeals to most surgeons as unnecessary, excepting in very unusual cases, a more simple suture being efficient in almost all cases of inguinal hernia.

By the use of McArthur's autoplastic suture, which suture represents simply a narrow ribbon of the aponeurosis of the external oblique, split off from each side of the wound, and with which almost any method of closing may be followed, it is unnecessary to introduce any foreign material whatever deeply into the wound. This operation is not quite so easy of execution as most others, and it is, perhaps, for this reason that it has not been more generally adopted.

As before stated, those who employ the Andrews modification of the Bassini operation, regard it as ideal in cases with large ring, and extensive muscular defect. The advantages of overlapping the aponeurotic and muscular structures are, according to Eisendrath, that the former, while elastic, possess great strength, and are not so likely to pull away from Poupart's ligament. It is claimed, also, for this operation that the sutures placed just above and below the cord, enable one to so decrease the size of the large internal ring that it becomes unnecessary to resect the veins, unless they are very much enlarged. The reinforcing of the internal ring, however, should, perhaps, not be regarded as peculiar to any method, as presumably everybody does this if it is found necessary.

In closing the external ring, likewise, no doubt in cases of defective or small conjoined tendon, the sheath of the rectus muscle, or even the belly of the muscle itself, has been long drawn over by surgeons, to fill in this defect. Bloodgood, however, now systematically exposes the sheath of the rectus by retracting upward and inward the aponeurosis of the external and internal oblique muscles. The sheath is incised for a distance of five centimeters upward and outward from the symphysis. The muscular fibers are then sutured to Poupart's ligament. The writer has never practiced this modification, but has frequently simply drawn the sheath of the rectus over to Poupart's ligament, believing that it is the fascia which gives to the abdominal wall the strength to contain the abdominal viscera, while the muscle itself really only provides elasticity and motility. Muscle belly is frequently found forming part of hernia contents; fascia, never.

Surgeons are beginning to realize the importance of getting patients out of bed much more promptly than has heretofore been regarded as safe, or desirable. While this may be, in the main, true of surgical operations generally, in the case of plastic operations like the radical operation for hernia, it is not wise to have the patient up before tolerably firm union is established, which means not earlier than the fourteenth day, as a rule. Every movement of the limb must, to some extent, disturb or displace the parts included in the sutures, and this is especially true of the aponeurosis. This layer being continuous all over the abdomen, groin and thigh, and the slit at the hernia representing simply a break in the continuity of this extensive and important layer, it will be seen that movements of the trunk, or limbs, may do considerable damage.

331 North Delaware Ave.

[Written for the MEDICAL BRIEF.]

Enuresis.

BY SAMUEL E. WOODY, A. M., M. D., LL. D.,

Professor of Diseases of Children in Kentucky University Medical Department.
Louisville, Ky.

The bladder is not a vital organ, one can live without it; its function of storing up the urine until it can conveniently be voided, is only cosmetic, but this function is so necessary to comfort and decency that without it life is a burden, and scarce worth the living. Bed wetting almost never causes death, and surprisingly few colds are contracted from the wet and chill, but more serious is its effect upon the moral character of the sufferer, for, feeling himself a nuisance, and an object of contempt and disgust, he is apt to lose

self-respect, which is the backbone of moral character.

Enuresis occurs somewhat more frequently in boys than in girls, and is usually nocturnal, but may also be diurnal. Normally, the action of urination is voluntary, as well as automatic. Distention of the bladder sends a sensory impulse to the bladder center into the lumbar part of the cord; part of this impulse is reflected back to the bladder, producing contraction; another part is transmitted to the brain which, if it so wills, sends back a motor impulse that relaxes the sphincter vesicæ. The urine flowing out produces a series of impulses that make the act automatic and continuous until the bladder is emptied, unless the brain interrupts by an exercise of the will.

The causes of enuresis are so numerous and varied, and often so obscure that each case must be studied individually. The causes are either organic or functional. Among the organic may be mentioned:

A. *Malformations*, as in the case of a little boy sent to the surgical clinic with extroversion of the bladder; or the mulatto girl, one of whose ureters opened into the vulva.

B. *Nervous Diseases*, with idiocy and various paralyses. These cases are either surgical and not amenable to medicine, or the enuresis is a symptom of a graver disease.

Functional causes are behind practically all the cases coming up for treatment, and these are nervous. Trousseau observed, "that the incontinence of urine is a neurosis;" and that is true. The functional nervous fault may be:

1. Cerebral.
2. Spinal.
3. Peripheral.

These faults may occur singly or in combination.

1. The cerebral fault may be (*a*) in development, as in normal individuals during the first year or two of life, and in imbeciles; (*b*) inertia or sheer laziness; (*c*) dreams; (*d*) too profound sleep.

2. *Spinal.* Excitability of the spinal centers is, I believe, a more potent factor than is generally supposed. It may be due to a neurotic tendency, malnutrition, neurasthenia, or to a subacute congestion from prolonged peripheral irritation. Peripheral disturbances may be from irritation, not only in the bladder itself, but of any part of the field of the pudic nerve which supplies the neck of the bladder, urethra, pudenda, and anus. Some of these principles are illustrated in the following cases:

1. A girl, thirteen years old, who had been treated by several physicians unsuccessfully, presented herself for treatment. She was a picture of robust health, a student and musician of considerable promise. I was surprised to find her a sufferer from nocturnal enuresis. I studied the case diligently for some weeks, meantime doing considerable therapeutic experimentation, yet could find no adequate cause, nor give any relief. I finally noted that the involuntary evacuation occurred just an hour or so after going to bed, and during a sleep so profound that she was utterly unconscious of the act, and could only be awakened with difficulty. I accordingly ordered that, instead of the daily music lesson, she be put to bed and allowed to take a nap from three to five in the afternoon. The result was a prompt and apparently permanent cure.

2. A nine-year-old boy, nervous, strong, muscular, wets the bed at night, and occasionally wets his clothes in the daytime, especially if, when interested, as in play, he fails to respond to the bladder's call. The act of urination is sudden, forceful and brief; the urine is copious, acid, and loaded with solids, and depositing urates on cooling, and some crystals of uric acid. I can find no evidence of pudic irritation. I believe he has a strong muscular bladder, with sensitive mucous membrane and irritable nervous mechanism. I have recommended that he eat and drink less, especially in the evenings, and that the bladder and bowels be evacuated before going to bed. For the hyperacidity of the urine, a teaspoonful of effervescent lithium citrate three times a day, the dose to be gradually increased until the urine turns reddened litmus paper blue. For the irritability of the bladder I have prescribed five drops of a one-grain to the ounce solution of atropine at bedtime, the dose to be increased one drop each day until efflorescence and dry fauces show the limit of toleration, after which the dose is to be decreased

two drops, and so continued until we see the child again two weeks hence.

3. This six-year-old boy had normal control of urination until about two months ago, when he had scarlatina, complicated with adenitis and nephritis. The urine is now apparently normal, and the boy is convalescing, but is weak and anemic, and has enuresis, diurnal as well as nocturnal. I will give him sodium benzoate, five grains, every four hours, as a corrective of the urine and a gentle stimulant to the bladder and urethra. I note that the sphincter ani is relaxed, and infer that the sphincter vesicæ, also supplied by the pudic nerve, is in similar condition. So I add one one-hundreth grain of strychnine to each dose of the peptonate of iron I prescribe for the anemia.

4. This ten-year-old girl is a "dreamer of dreams," and, when dreaming, is too lazy to awake and bestir herself in response to the bladder's call, but allows herself to dream on, and finally, dreaming that she is in some delightfully convenient situation, voluntarily evacuates the bladder—to her immediate chagrin. Each lapse tends to lessen the sense of mortification and confirm the lazy habit, and makes cure more difficult. The treatment should be mental and moral. She must be impressed, by corporal punishment if necessary, with the enormity of her sin and the duty of responding to the mildest intimation of a desire to urinate. That such impressions may effectively persist in sleep was shown in a case of a seventeen-year-old young lady who once consulted me for just such a trouble. She had been treated unsuccessfully by various physicians, but having a desirable offer of marriage, she was desperately anxious to be cured. I prescribed; but a few days later she threw my advice to the winds and married. She never wet the bed again. Her solicitude for the groom and dread of disgrace in his eyes persisted in sleep, and triumphed over her weakness.

600 Broadway.

Enclosed find one dollar, for which please send me the MEDICAL BRIEF. I am favorably impressed with it.—W. J. WALTERS, M. D., Pikeville, Ky.

[Written for the MEDICAL BRIEF.]

Laryngeal Diphtheria.

BY W. L. DICKERSON, M. D.,
Professor of Therapeutics and Materia Medica, and Director of Laboratory in the Barnes Medical College.
St. Louis, Mo.

Laryngeal diphtheria may arise as the sequela of an ordinary attack of diphtheria extending down in the larynx, or it may develop in the pharynx and extend downward, or it may develop in the larynx alone.

It may develop in the larynx very slowly, so that the croupy cough and difficult breathing may extend over a period of a few days, or, on the contrary, may only last a few hours.

The first symptoms of this condition are hoarseness, and croupy cough. The breathing is not so much accelerated as it is labored, becoming more noisy or snoring, owing to the stenosis or partial stenosis of the larynx. As stenosis increases the breathing becomes more labored, until finally it seems as though the child would die of asphyxia.

One of the most important diagnostic points is the drawing in of the suprasternal region, the epigastrium, and the lower parts and sides of the thorax. The difficult breathing increases until gradually it is very difficult, indeed; the face becomes pale and ashen, the lips become livid. The breathing is sometimes spasmodic, owing probably to the fact that some portions of the membrane are loosened, coughed up, and expectorated. It again returns, however, just as soon as the membrane has had time to reform.

In cases in which the larynx alone is attacked the temperature is usually below normal, and the patient often seems quite well, with the exception of the difficult breathing.

A large percentage of cases diagnosed as croup, and membranous croup, are in reality laryngeal diphtheria. In almost every case coming under my care the microscope proved the presence of the Löffler bacillus, making the diagnosis absolute. Larger doses of the antitoxin are necessary in these cases than in ordinary diphtheria. It is best administered at once, from three to six thousand

units, to be repeated in twenty-four hours if the patient is not relieved. One-tenth grain doses of mild chloride of mercury may be given every hour. Local applications to the throat may be made by wringing towels out of hot water, and applying them in rapid succession. These local applications temporarily relieve the breathing, and if the patient can be sustained for twenty hours after the administration of the antitoxin we may usually expect a rapid and perfect recovery.

It has been my experience that in the majority of cases the physician is not called until the dyspnea is so pronounced that intubation is necessary on arrival. After intubation the treatment above described is carried out.

Strychnine is best administered in large doses, to prevent and cure the paralysis that so often follows. A child two and one-half years old may be given one-fiftieth of a grain of strychnine every four to six hours, in severe cases, and this may be continued for two or three weeks.

5424 Easton Avenue.

[Written for the MEDICAL BRIEF.]

Jequirity and Treatment of Trachoma.

BY P. RICHARD TAYLOR, M. D.,

Dean of the Hospital College of Medicine; Professor of Materia Medica, Therapeutics, Otology and Laryngology, and Clinical Professor of Ophthalmology in the Hospital College of Medicine. Louisville, Ky.

Regarding the many inquiries made concerning an article read by me before the Louisville Medical and Surgical Society, in September of last year, concerning the use of jequirity in trachoma in children, I wish to state that I have used this remedy in patients whose ages ranged from five to seventy-five years, with equally good results.

In this condition the swelling is proportionately greater in children than in adults, and in young adults than in old age. The more advanced the stage of trachoma, or, rather, the greater the quantity of cicatricial tissue in the lids, the less will be the inflammatory reaction.

My paper was especially criticised for my boldness in the general use of the drug, but the results have borne me out and upheld my judgment in every instance, and I will repeat that in every case where granulation tissue and plastic material is to be gotten rid of, and where a corneal ulcer does *not* exist, jequirity is the best remedy I have ever used, and yields the best results I have ever obtained.

Where the lids are pulpy and thickened, and the plastic material has not advanced to cicatricial tissue, no attempt should be made to reduce the swelling, unless it becomes alarming.

As to the particular form of the drug to be employed, I prefer the impalpable powder of the jequirity bean, though any preparation may be used, the solution dropped into the eye, and the powder dusted on the everted lids.

After the swelling subsides, if the former condition is not entirely eradicated, the application should be repeated once every ten or twelve days, and as often as necessary to relieve the condition.

This drug has long been used as a remedy for pannus, but trachoma so often exists without pannus that I was led to use it for the relief of the condition of the lids.

Palliative treatment should be used if necessary after each application until the inflammation subsides, and the utmost caution exercised *not to use this remedy when corneal ulcers are present.*

129 W. Chestnut Street.

[Written for the MEDICAL BRIEF.]

Reply to Dr. Clopton.

BY E. E. BAETJE, M. D.,

Smithton, Ill.

I note in the December BRIEF an article by Dr. Clopton, Milan, Tenn., entitled "A Singular Case," and I wish to say to the Doctor that I had a case similar to his, but she gave birth and ruptured the band, and after that she gave birth to twins each time. Her mother was the same, but had no twins.

Enclosed herewith find one dollar for which please send the MEDICAL BRIEF for the year. I can not do without the BRIEF. —W. A. GARNER, M. D., Clayton, Ill.

[Written for the MEDICAL BRIEF.]

Contagion of Tuberculosis.

BY PATRICK T. MELDON,
An Experimental Medical Scientist,
San Bernardino, Cal.

Tuberculosis is not contagious in a literal sense; we are positive that it does not spread from a patient to others like a contagion of small-pox, scarlatina, mumps or measles, but it is without question communicable from one to another by contact. The per cent of infections, as the result of contact, seem small; about four per cent can be set down as well proven in my investigations, but at the same time the number of suspected cases of infection from contact would make it about eight per cent.

A case of contracted tuberculosis from one affected is the most insidious, and should always be suspected in a patient not able to account for the incipiency of his case. Tuberculosis contracted in the ordinary way comes on with a bad cold, and is attended by spells of coughing; from that on the case is well noted, and the time of its incipiency remembered. If it is preceded—rather induced—by an attack of grip or penumonia, its incipiency is remembered by the precedent, but when it is contracted from one affected it usually works quietly on its victim for several months before its effect is seriously noted. This is especially the case when the disease is communicated through sexual intercourse; it is communicated that way from man to woman and from woman to man.

Those cases of infection—through sexual intercourse—are the most deceiving; systemic poisoning—in every case met with—had set in long before the lungs were involved. You can easily detect a case of this kind by the long, progressive emaciation and pallor before any other obvious signs of tuberculosis had made their appearance. Of course, as tubercular patients, as a rule, are sensitive to any reference being made about "consumption," it often makes it difficult to get at the history of a case, for the patient, fearing that his case may be such, will deny being ever exposed to it. Here is an illustrative case.

Last October I was called on to visit a young man, a consumptive. On calling at the hotel where he was rooming, I found him accompanied by his wife and mother-in-law. He was merely a boy; this mention is made as it would hardly seem likely for him to have had constant intercourse with a consumptive woman, and yet every sign in the case looked suspicious. After making careful examination, I asked, "How long are you ill, my boy?"

"Since last March."

"Did your lungs give you any trouble before then?"

"No, sir."

"Were you able to work until that time?"

"Yes, sir; I never had anything the matter with me before then. I was a street car conductor in Louisville, Ky.; I got a bad cold last March while at my work, and I have never gotten over it."

"Well, my boy, you have had your particular ailment at least a year and nine months, probably two years, and it seems strange to me that you did not feel it come on you before last March."

At that particular juncture of the conversation I had mistaken his wife for his sister and his mother-in-law for his mother, but I was determined to go closer into the case and continued, though somewhat evasively. I asked, "Have you ever had a lady companion who had weak or affected lungs?"

"Well—no, sir."

"My gracious, Doctor!" asserted the elderly lady, "That would have nothing to do with his case."

I instantly realized that I had touched the spot I had suspected, and off-handedly remarked: "No, no, nothing whatever, madam, except that some people acquire poor health that way—this boy has poor health."

"Yes," she assented; and as I stepped out of the room she stepped out with me and asked, "Doctor, can you spare a minute or two? You have surprised me awfully about that boy. He is married to my daughter, but he was married before. His first wife died of tuberculosis just a year and nine months ago. I am a trained nurse myself, and I feel satisfied he contracted the disease from her, but how could you have suspected that he contracted the disease that way?"

It frequently happens that a woman or girl contracts tuberculosis from a tubercular sister, brother, mother or father. I have met with some very deplorable cases that were contracted that way. And they must have been the result of woman's superior and constant devotion to the sick, for I have only very seldom met with a man who had evidently contracted the disease from a tubercular member of his family.

There is great danger in making up consumptives' beds. Not long since a young woman died in this vicinity of tuberculosis contracted that way. She had been employed as bed-maker in a hotel that was always open to consumptives. Dried sputum shaken from the bedclothes was evidently the cause of her death.

There is also great danger in using dishes and spoons used by tubercular patients. A patient often takes up a spoon, uses it for a simple occasion, and carelessly sets it aside, to be unsuspectingly used by someone else. Such careless acts are nothing less than criminal in a patient, yet it is much more criminal of those who would rent a consumptive's bed without it being properly fumigated.

About two years ago I published a circular on tuberculosis, and in it I stated: "You can rub a teaspoon on your tongue and then rub it on my tongue." As a result of that statement I infected my throat five times in less than eleven weeks. The infection always took effect on my left tonsil, and was attended by a rather pleasant tickling sensation, causing low, stiff hacking and coughing. The first and second infections took effect in about two hours and thirty minutes after contact. I was somewhat doubtful about the reality of the first infection, yet I treated it quickly. The third, fourth and fifth infection, strangely, took effect uniformly in five hours. I did not treat the fifth infection until the morning of the fourth day after infection. The acute tickling sensation had then subsided, but my tonsil and left side of my throat felt full of pressure, with a tendency to hoarseness.

Specialists on tuberculosis have written or said a great deal on this subject, and most of them, if not all of them, would have us believe that there is no danger in exposure to the disease. They claim to have a great deal of experience for what they say, but to me it seems like a great deal of mere imagination—decidedly absurd, yet too grievous to laugh at, whether one can spare the time or not.

[Written for the MEDICAL BRIEF.]

Cholecystitis.

BY M. R. BARKER, M. S., M. D.,
Chicago, Ill.

One always feels rebellious when discussing any of the diseased conditions the names of which end in "itis." For instance, cholecystitis, peritonitis, appendicitis, etc., etc., for the reason that the name does not indicate the pathologic condition, but, usually, conveys the erroneous idea that inflammation is a morbific invasion of some part of the system, against which the system arrays itself for the purpose of dispelling it, and in which conflict the physician or surgeon renders assistance to the system. This idea has such a hold, however, that it seems useless to even hope for any change in this respect, at least for many years.

In the discussion of this subject, however, we will try to place ourselves in the right attitude towards it, in this respect, as we understand the matter. To do this, let us first define inflammation as we understand it. It is the reaction which living tissues exhibit to morbid irritation. In other words, inflammation is Nature's bulwark of defense, against morbific agencies, which gain entrance to the system, the operation of which tends to destruction. Inflammation, then, is not a disease, but Nature's protector in case of disease. We may now ask, what is the nature of these morbific agents, so far as is known, against which inflammation is arrayed? So far as is known, they are bacteria, or of bacterial origin, which, if not arrested by inflammation, multiply rapidly, spread to other tissues, transmit their toxines to the circulation, and endanger or destroy the general system. The term infection is a general one, and is applied to all of these organisms. In other words, when we say that any portion of the system is invaded by infection,

we mean that some one or more of these different organisms has gained entrance to, and commenced operations upon, that part of the system.

With the above explanations, we are in a position to define our subject, and place ourselves, for its discussion, in the proper attitude towards it.

Cholecystitis is that condition in which infection has invaded the gall-bladder, and inflammation, as Nature's defense, has been arrayed against it, and the battle is on.

This brings us to another point. We have stated that, so far as known, all of these morbific agents, known as infection, were either bacteria, or of bacterial origin. There is nothing more common, in medical literature and parlance, than the term catarrhal inflammation; for instance, catarrhal enteritis, catarrhal gastritis, catarrhal endometritis, etc., etc. This term catarrh, so generally in use, conveys the idea that there is a morbific agent, other than bacterial, bearing the name catarrh, which invades the system, and which is not included in the general term infection, against which inflammation is frequently arrayed; hence the term, catarrhal inflammations. This is another unfortunate term which means nothing, the condition, for which it stands, not existing save in name, but which has become so fixed in the medical mind that it can not be rooted out. The facts undoubtedly are, that inflammation never exists excepting when defending the system against the invasion of some form of infection.

We may state that infection can not invade any part of the system without some predisposing condition which prepares the tissues for it.

Cholelithiasis and cholecystitis have been so intimately associated, by writers and teachers of this subject, and for so long a time, that it is hard to disassociate them, in the mind of the profession, and place each in its proper category. That cholelithiasis is sometimes a predisposing cause for the invasion of infection of the gall-bladder, by reason of its traumatic or devitalizing effects upon its mucous membrane, or upon the whole organ, is unquestioned, but it is not the only predisposing cause and probably not the most frequent.

In a previous paper we have portrayed the condition of the gall-bladder in certain phlegmatic temperaments, or in that class of individuals in which gall-bladder troubles are most likely to occur. The characteristics of these are: flabby muscles, want of energy, turgescence of the tissues, disposition to adipose, slow reactionary powers, etc., etc. We have shown, in that paper, how this general condition would affect the normal operations of the gall-bladder and render it a suitable place for the formation of gall-stones. The same condition also predisposes the tissues of the gall-bladder to the invasion of infection, and we believe this condition to be the most frequent predisposing cause of infection of the gall-bladder, and that while the presence of gall-stones in such a bladder may increase the danger of infection, we believe also that gall-stones may be present, when infection takes place, without contributing at all, as a predisposing agent; while we know hundreds of cases of infection of the gall-bladder have occurred, in which there had never been a gall-stone, how many times has the gall-bladder been operated upon for infection, gall-stones having been adjudged the predisposing cause, but not a stone found? Had they been there and escaped, as has often been thought? If the gall-bladder had been in such condition as to force stones out of it (the only way they could escape), there would have been no stones in it, for the conditions would have been such that they could not have formed; neither would there have been an infection of such a bladder by reason of its normal condition.

While it is not our purpose to convey the idea that gall-stones are not a serious menace to the system, we do wish to emphasize what we believe to be true; that is, that they produce their dire results in and of themselves many times, without complications, and that infection of the gall-bladder is not at all dependent upon them for its existence in the gall-bladder.

We should learn by our experiences and the experiences of others, not to associate these two conditions too intimately and constantly. We will then make fewer mistakes and not so frequently suffer humiliation.

The tissues of the gall-bladder having been prepared for the invasion of infection, by some predisposing cause, they are at the mercy of any pathogenic germs which may lodge in them. These germs may reach these tissues through the blood stream; or, through the lymphatics; or, through the common and cystic ducts from the intestines. The biliary passages are, however, not so much exposed from the latter source as it might seem. We believe it is quite exceptional for germs to gain entrance to the normal common duct, through the papilla, for two reasons: Germs reaching the papilla, from the intestine, must come from the distal direction of the intestine; they can not reach it from the proximal direction, nor from the duodenum, by reason of its acid contents. Almost all pathogenic germs die in an acid medium. They must, then, not only stem the intestinal current, but they must pass, for some distance, through an acid medium, as the contents of the gut are not rendered alkaline, by the mixture of bile with it, for some distance below the papilla. The bile passes through the papilla into the intestine, in jets, and periodically. Between these jets the papilla closes; hence, the chances for germs to enter a normal, common, duct are meagre. Unfortunately, however, in these cases, we have the sluggish action of the phlegmatic temperament to deal with, in which the mechanism of the papilla may not be operated in a normal manner.

Infection having been established in the gall-bladder, it may run a varied course, depending upon the virulence of the infection, the condition of the tissues, and the kind of defense which Nature is able to provide for its protection. If the infection is the colon bacillus, or a less virulent germ, the tissues in fairly good condition and the blood supply ample, so that a sufficient number of leucocytes can be deposited at once about the infected foci, then the probabilities are that Nature will soon dispose of the infection with little disturbance to the general system. A case of this nature would be a good example of the so-called catarrhal cholecystitis. Should the germ be of considerable virulence, the tissues in fairly good condition and the blood supply, for any reason, inadequate, so that only a limited number of leucocytes can be deposited at the foci of infection, a long-continued struggle may take place between the forces of Nature, or inflammation and the infection, the course of which will constantly vary as the inflammation, or infection, gains the temporary ascendancy in the struggle. In these cases the general system takes on a typhoid condition; that is, the diseased condition assumes the form of typhoid fever, for which it has been mistaken many times. In this form of infection the germ is not pyogenic, hence pus is not produced. In this form of infection, the general system suffers by reason of the toxines resulting from the action of the infection, which are conveyed to the general system through the blood stream, and the general exhaustion due to the prolonged illness. These cases may terminate in death, or in recovery, depending upon the ability of the system to withstand the conflict until the infection dies out, or until it is destroyed by the inflammation.

In another class of cases, in which the germ is pyogenic and the infection more virulent, and in which the forces of Nature are not able to overcome the infection, the battle wages more fiercely, pus is produced, and conveyed by the lymphatics to the blood stream. The whole system becomes septic. Chills, irregular temperature, sweats and prostration come and go in irregular cycles. The general system suffers terribly. These attacks usually destroy the system, though a few, by reason of unusual vital powers, are able to withstand the assaults until the infection dies out or is overcome by Nature. If the patient lives, then a long, tedious convalescence follows, many months of time being necessary to restore a moderate degree of health. In another class of these cases, the infection is of the most virulent type, and so rapid in its work, that before Nature can rally her forces, the infection has penetrated the gall-bladder and invaded the peritoneum, setting up a general peritonitis from which the patient always dies, sometimes in a very few hours after the attack. These cases are all hopeless. In these different classes of cases, vomiting may be a very annoying symptom. The

vomit is usually mucus mixed with bile. Pain may be intense, mild or wanting. If the ulceration, in any of these cases, reaches the peritoneum surrounding the gall-bladder, the pain will be intense. Until that is reached, however, there may be little or no pain at all. The pain may be reflected and, when felt in the region of the appendix, as it often is, great care must be used or a diagnosis of appendicitis will be made. This has happened many times. The pathology and symptomatology of infection of the gall-bladder, and of the vermiform appendix, are the same, unless complications exist. Each are subjected to the same forms of infection, and corresponding infections, in these organs, produce the same results, under the same circumstances. Enteroliths, or stones in the appendix, sometimes predispose the tissues of the appendix to infection, but probably not more frequently than one time in twenty. Gallstones sometimes predispose the tissues of the gall-bladder to infection, but they are not the most frequent predisposing cause.

To recapitulate: In a certain class of these cases, the general system is jeopardized, or destroyed, by the toxines produced by the infection and absorbed into the system, and the exhaustion of the system due to the long-continued illness.

In another class, havoc is wrought in the system, which is usually destroyed by a general septic condition, pus being produced by pyogenic germs and absorbed into the system. In another class of cases, the system is destroyed in a few hours by the rapid and deadly operation of the infection setting up a general peritonitis.

In order that we may be understood regarding the pain in cholecystitis, or infection of the gall-bladder and pain in cholelithiasis, or gall-stones in the gall-bladder, we will repeat:

In cholelithiasis the pain is due to the distension of the normal gall-bladder, and stretching of the peritoneum surrounding it, by the collection, within it, of its normal secretion. (See previous paper on this subject.) The pain in cholecystitis is due to the diseased condition, or ulceration reaching the peritoneum, when the pain becomes intense. In the latter condition the gall-bladder is diseased, and the normal secretion is not poured out; hence there is no distension of the gall-bladder, and no pain from this cause.

It is of interest to know in this connection that the normal gall-bladder will dilate and contract many times, by reason of the hydrostatic pressure produced in it by the constantly collecting secretion from its mucous membrane. But the severely inflamed gall-bladder will not dilate more than once, and after that it constantly contracts until it is only a vestige of its former self. In such cases the cystic duct is permanently occluded, and the gall-bladder, so far as any usefulness to the system is concerned, is removed from it. Hence, in cholelithiasis the gall-bladder may dilate and contract, any number of times, as long as the bladder itself is not diseased; hence, the pain, due to this dilation, may be repeated an indefinite number of times. While, in infection of the gall-bladder, pain due to dilatation is never repeated; if it does occur, it is due to the involvement of the peritoneum by the disease.

At the beginning of infection of the gall-bladder, it is impossible for any one to predict the outcome, to tell the condition of the gall-bladder, or to know what is going on within it. We can simply say this is a case of infection. We can not tell the virulence of the germ, nor estimate the resistance of the system. We can say this: the patient may die of peritonitis in a few hours; or he may go into a typhoid state and die after a long-continued illness; or he may die of a general septic condition, after a more or less protracted sickness; or he may be able to "weather the storm" and get well.

The most common complication of infection of the gall-bladder is adhesions. These may involve the pylorus, the common duct, the transverse colon, or the omentum, any or all of which may be involved in the same case. The transverse colon may be wholly, or partially, occluded by these bands. The common duct may be so bent that its lumen is occluded, and all of the conditions, due to damming the bile back into the liver, produced. The pylorus may also be constricted and the consequent conditions produced. When this complication pre-

vails, pain is ever present, due to the tugging of the organs on these peritoneal bands. If the infected gall-bladder recovers, this complication remains, and renders the life of the patient one of chronic invalidism.

The treatment of infection of the gall-bladder is always surgical, and, if these cases are taken in time, the operation is a benign one and always renders the most valuable aid in the shortest possible period. Why should any one expect to stay the progress of empyema of the gall-bladder by internal medication? Or how can one expect to relieve any form of infection of the gall-bladder by these means? One might as well expect to stay the rapids of Niagara with a cobweb! We do not wish to convey the idea that internal medication is not valuable, in the way of sustaining the patient and thus aiding Nature in the conflict, but we do say that this treatment can not, in any way, directly or indirectly, reach and remove the infection. It can help only by sustaining the system, in a limited manner, through the ravages of the disease.

Why subject the system to these ravages when surgery offers a means, that is far less perilous, by which they can be escaped? As a rule, the interne first sees these patients, and upon him rests the responsibility of doing the best that can be done for the patient. And while we commend his confidence in himself and his remedies to deal with diseased conditions, we feel that he should also be cognizant of his limitations, one of which is that he can not deal with infection which can be reached and treated surgically as well as the surgeon can. Hence, all such cases should be referred to the surgeon as quickly as the diagnosis can be determined.

The surgical technique for operations in these cases is as follows:

Locate the cartilage of the tenth rib. From this point make an incision downward, through the right border of the right rectus muscle, four or five inches long. This will usually be found adhered by peritoneal bands, more or less firmly, to all, or a part of, the organs about it. Pack gauze in all available spaces about the gall-bladder. Carefully break up the adhesions and liberate the organs. Place fresh packing in all available spaces, as they appear, after breaking the adhesions. Aspirate the gall-bladder. If fresh bile is found in it, draw its fundus out, through the abdominal wound, stitch it there and drain the bladder in the usual way. If stones are found, remove them. If there is no bile in the gall-bladder, and it is contracted and friable, remove it. To do this, sever the meso-cholecystis, on each side, strip the bladder from the liver to the cystic duct, and pinch the cystic duct with forceps, thus crushing all of its coats away, except the peritoneum. Ligate with silk at the point crushed. Sever the duct, distal to the ligature, and remove the gall-bladder. Sterilize the stump of the duct with ninety-five per cent carbolic acid. A drainage tube, wrapped with gauze, must extend from the stump through the abdominal wound. There will usually be no hemorrhage from the liver in this operation. If there is, touch the bleeding points with the actual cautery. Drainage should extend from all points, where adhesions have been broken up, through the abdominal wound. Strips of gauze are sufficient. Close the abdominal wound, up to the drainage, and dress with voluminous dressing.

If the work can be done before adhesions form, or before they become so firm, and before the gall-bladder becomes so diseased that its removal is necessary, it it is a simple and benign operation with hardly any danger incurred.

The longer the operation is delayed the more serious it becomes, and the more danger there is from it. Hence, I am sure that the surgeon who urges early operations in these cases is doing only his duty, and would be censurable if he did otherwise.

4625 Greenwood Avenue.

[Written for the MEDICAL BRIEF.]

Tenderness of the Gums.

BY T. HENRY WHITING, M. D.,

Rockford, Ill.

℞ Tinct. of Myrrh	½	drachm.
Chloroform	15	minims.
Glycerine	6	drachms.
Essence of Rose	6	drops.

M. Apply with absorbent cotton.

[Written for the MEDICAL BRIEF.]

A Queer Patient.

BY WM. R. FRISBIE, M. D.,

Medical Examiner Bureau of Pensions,
Washington, D. C.

The borderland between sanity and insanity has no well-defined limits.

During the latter part of the sixties, Dr. Jones was practicing medicine in a scattering California settlement, near the Coast Range. In common with the average practitioner of that section he found the country so "distressingly healthy" as to be obliged to supplement infrequent professional services with keeping a "chicken ranch," and cultivating a small vineyard. Experience and adventure, incident to a frontier life, made up partly for what he failed to garner in the way of shekels.

One moonlight night in October, 1868, he had a peculiar summons. Most of the day preceding he had been assisting a bungling Mexican carpenter in making some needed repairs about the premises. He had an undefined, but persistent mental impression, during the entire day, that his presence and services were needed, but could not divine where or for what purpose. With this feeling in mind he had gone to bed early and, weary from the unwonted labors of the day, soon fell into a sound sleep. In the midst of a comfortable dream he was suddenly aroused by what seemed to be a call to visit a Mr. Morton, an eccentric neighborhood character, generally regarded as a crank, though of recognized intellectual ability.

The house occupied by Mr. Morton was of considerable pretension, as to size and architecture (generally referred to as "the castle"), was built of rude, but compact masonry on a summit of a spur of the mountains which jutted up some fifteen hundred feet above the valley. Mr. Morton, apparently about sixty years of age, had been living in this secluded spot some five years, sometimes employing a man servant, but generally alone. Meanwhile he had become an object of gossip and curiosity with the neighboring ranchmen and villagers.

Just what his occupation was, or his means of livelihood, had been variously surmised, but never satisfactorily determined. He was evidently a gentleman by birth and education, but of reticent and reserved manners, and had held no further intercourse with his neighbors than was absolutely necessary. Indeed, it might truthfully have been said that he had no neighbors, in one sense and strictly speaking, inasmuch as the nearest house was three miles away.

Dr. Jones' office, at his residence on the outskirts of the village, was nearly ten miles from the Morton house.

What put an end to the Doctor's dreams that night he never knew. As nearly as he recollects, he heard a rumbling, followed by a snapping sensation, not unlike that which precedes a telephone message, followed by what seemed to be a call, of some sort, to the house on the cliff. Whether this supposed voice was part of the dream or not, he had no means of knowing.

He jumped upright in bed, with an involuntary exclamation, "Who's there?" There was no one present, so far as could be discerned in the dusk of the room, and as he found upon striking a light. "Pshaw!" he said to himself, "I have been dreaming!"

But no! The impression of the reality of the call seemed too vivid to have been an illusion, and his intuitive judgment bade him give it heed. Acting on this impulse, he hurriedly dressed himself, saddled and mounted his horse, and set out on his strange journey.

Before leaving the house he glanced at the clock and found the hour to be 11:30. He had slept longer than he supposed

After leaving the valley, an obscure trail along the foothills and up the slope of the cliff, shortened the distance at least a mile. Not being familiar with the route, he hardly knew how to follow this cut-off, but his horse apparently did, and, strangest of all, as struck him more forcibly afterwards, seemed to divine instinctively his proposed destination.

The mysterious nature of the summons, the silence and loneliness of the midnight ride, the mystic moonlight that seemed to point out the path he was to follow, and the strange, intuitive methods of his horse, may have been in part imaginary, but was a combination altogether so uncanny as to be startling.

A ride of two hours, as rapid as the nature of the country permitted, brought him to the castle, where he promptly dismounted and knocked at the door. There was no response and, so far as appeared, no light or life within.

Repeated knocks, each harder and louder than the preceding, were all equally without other result than to arouse suspicion in his mind that he had come on a fool's errand, or might, perhaps, meet with rough reception, should he succeed in arousing the inmate, if any, from his apparently sound sleep.

While thus in doubt whether to investigate further, or to retrace his steps, he thought he detected faint sounds, of what appeared to be stertorous breathing from within, and thereupon had about determined to force open the door when, upon trial of the latch, to his surprise, he found it to be without fastening. The door opened directly into the main room of the house, a commodious and comfortably-furnished apartment, obviously a living room, library and bedroom combined. The labored breathing, which was now heard quite distinctly, proceeded from a canopied bed in the remote corner. The Doctor's professionally-trained ear at once detected the character of the breathing as abnormal, and, lighting a lamp, which he found upon the mantel, he hastened to the bedside. Its occupant was Mr. Morton. His clothing had not been removed, and he lay outstretched upon the outside of the bed covering, in a state of profound coma. His muscles were relaxed, features flushed, breathing labored, deep and stertorous; pupils insensible to light and contracted, pulse full and rapid, and temperature abnormally high. Meanwhile a call for aid and partial search of the premises had convinced the Doctor that his patient was the only occupant.

There was no time to be lost. The symptoms pointed clearly to congestion of the brain, in an aggravated and alarming form, and of comparatively recent origin. But how account for this condition? He made careful examination and could discover no evidence of injury of head or body. There were no indications in the room of any previous struggle or disturbance, and nothing to make him suspect drug poisoning.

In a tropical climate and at midsummer, from the symptoms, he would have suspected it to be a case of sunstroke. But such a case in that section was unheard of, and at that season, especially, not to be seriously considered.

Whatever the cause, the matter would brook no delay, and the obvious and immediate duty was to attempt relief.

Divesting himself of his coat, the Doctor bent every energy of head and hand to revive the flickering spark of life, and by the aid of such resources of medical art as his saddle-bags afforded, after a while had the satisfaction of finding his perseverance rewarded. The temperature gradually declined, the breathing became less labored, the pulse less rapid, and, with the slow return to consciousness and general amelioration of symptoms, the mental faculties were evidently struggling to regain a lost foothold.

A low muttering of unintelligible, inarticulate sounds was succeeded by wandering, incoherent words, finally merging into coherency, until at last the sequence, if not the meaning, was discoverable.

The patient's mind appeared to be engrossed with the prismatic colors; running up and down what might be termed a chromatic gamut, ending with an unintelligible supplement, and on the down scale, beginning with this same nondescript addition.

What it all signified could not be surmised without explanation, which came an hour or so later, when, after a refreshing sleep, he told the doctor the following story, with very little questioning. Scientific terms and details omitted, it is given substantially in his own words:

"For many years," said he, "I have made a special study of the latent powers of the mind, and by practice and experience have acquired a faculty, which I can exercise at will, of impressing my thoughts and feelings on the minds of others. In other words, I have demonstrated the fact of what is known as telepathy. Experience has taught me that, under certain conditions, thought can be projected and operated on the mind of another almost as readily as on the mind of him who wills to do so. These statements may impress you as the vagaries of a lunatic, but are susceptible of demon-

stration. Possibly, even now, you will be less incredulous when told that yesterday I placed my mind in communication with your own, with a distance of ten miles intervening, and the result is your presence here. Why I did so, you already know. How it could be done, is the problem I have learned to solve. All this," said he, "is by way of preface. To go back further in my history it should be explained that shortly after graduating at college I began a study and special investigation of subjective mental phenomena, including mesmerism and hypnotism. As one phase of my experiments has incidentally led to your present visit, it is but fair that you should be put in possession of such facts as may enable you to treat my case intelligently, should your future professional services be required.

"It was quite early in my investigations that I suspected the developed powers of the mind to be few and feeble, in comparison with its undeveloped potentialities. Not to draw too fine a distinction, I thought this equally true of the intellect and of the senses. My theory that the known and seen were but a starting point, so to speak, for the unknown and the occult, opened up a wide field of research.

"To give you an isolated instance, I became convinced that the colors of the solar spectrum had theoretically neither beginning nor ending, beyond the possibility of discovery, and this I was anxious to demonstrate.

"Shortly after coming to this mountain I employed as a servant a middle-aged East Indian, a native of Madras, named Subra. He had formerly been assistant cook on an ocean steamer, had served as a waiter in a San Francisco restaurant; later on, in the same city, as porter in an Oriental bazaar; in short, making no permanent success of any avocation, by process of natural evolution, had become a typical tramp. In this latter capacity he had drifted to my door. His facial expression and general manner impressed me, at first sight, as indicating that peculiar nervous temperament so specially adapted for hypnotic experiments.

"Engaging his services, nominally as general house servant, I felt that he would prove more useful in other ways. Upon trial, my first estimate of him was fully confirmed. He was the best sensitive subject I had ever found, and soon came so entirely under my mental control, whether present or absent, that there was no risk of indiscreet garrulousness on his part. He was as dumb as an oyster to all questioning of outsiders, prompted by mere curiosity.

"In my study of optics I had observed great and varying difference in discernment of colors, evinced by different persons. There was color blindness in some. Others were able to distinguish two or three colors only. The ear of certain persons I had found to be insensible to certain musical notes, and the vision of many more to certain colors, and especially at one extremity or other of the solar spectrum. There were musical experts, and color experts, with capacity for discrimination, each in his respective field of operation, vastly surpassing the average. All of this was very significant and suggestive.

"If intellect and muscle could be abnormally developed by systematic training, why not the special senses by similar methods?

"The eye, being merely a vehicle of light, and the brain a receptacle of impressions, while the inner consciousness does the seeing; why, I argued, might not the latter be trained to discern, not only the seven recognized colors of the spectrum, but any and all others beyond, if there were others, as I believed?

"Entertaining such views and hopes, my experiments with Subra began. Finding him exceptionally apt in discerning the various shades and combinations of recognized colors, I devised and carried out various plans for cultivating and increasing this faculty. Making a few passes over his face and, after a time, even without this preliminary, and by the mere exercise of volition, I readily brought him into an hypnotic state, and subjected him to various mental exercises, afterwards pursuing a similar course with him while in a normal condition. One favorite exercise, pursued regularly and persistently, was a mental drill, running up and down the chromatic scale.

"When all this had progressed to my satisfaction, I took the step in advance to which all else had been preliminary.

"I should have stated that what I might call my optical gymnasium, where all this drilling took place, consisted of a darkened room, in the attic of this building, so arranged as to permit single rays of sunlight, entering through small apertures, to pass through specially-designed prisms and fall upon a screen.

"One day I said mentally, and with all the will power at my command, 'Subra, follow the scale closely and slowly, but *don't stop at the end!* Red-orange-yellow, green-blue-indigo-purple—Keep on! There is another color! Look at that!' Subra's eyes appeared to be bursting from their sockets. With pupils dilated and mouth open, he appeared dazed and transfixed. 'What do you see?' I asked anxiously; 'Describe it.' 'I can not name it,' he stammered; 'it is unlike all the rest, but dazzling, effulgent, too entrancingly beautiful!'

"(He appeared to have lapsed into the hypnotic condition without any volition on my part.)

"I had great difficulty in restoring him to his normal state, and never afterwards could I induce him to run up the color gamut.

"When the divergent rays of light were shown to him, whether in an hypnotic trance, or in his normal condition, his attention would be centered on the eighth color only, with that same dazed and startled stare, and it was with difficulty that he could be diverted to other thoughts or themes, until the light was withdrawn.

"From this time on his mind gradually lost its balance. His was a neurotic temperament, with a natural tendency to insanity.

"I reproach myself at times for having, perhaps, precipitated a condition which might possibly have been averted. He is now an inmate of the Stockton Asylum. They write me that he is harmless and docile, but with difficulty aroused, even sufficiently to partake of sustenance. He spends his time gazing, open-mouthed. into vacuity, with an expression of ecstatic wonderment on his features.

"It occurred to me that the eighth color might naturally have been a mere figment of Subra's imagination, implanted there by sheer force of my own will. You have just witnessed the result of attempts to settle that question. In drilling Subra, I had, of necessity, enormously developed my own faculty of discerning color, and so found myself fully equipped for personal experiments.

"Not to dwell upon the methods pursued, sufficient to state that results, so far, have vastly exceeded my expectation. To one who had never seen, or smelled, a rose, it would be obviously impossible to convey any adequate conception of its appearance, or odor. So language is equally powerless to picture this eighth color, which, as yet, is nameless. With a brilliancy and effulgency quite beyond description, suggestive of the uncanny, it exerts a peculiar disturbing influence upon the brain.

"Though I had used, in my own case, every possible preparation and precaution, approaching the vision by almost imperceptible gradations, the full perception of it finally overpowered me. While realizing, from recent experience, how hazardous the undertaking, I yet confess myself weak to resist an impulse to pursue further investigations along similar lines."

At the conclusion of his narrative, Mr. Morton had fully regained his normal condition of mind and body.

The Doctor, before leaving, took occasion to strongly advise him to abandon occult studies for an out-of-door life, suggesting that with so highly-developed will power he should have no difficulty in making the change. Mr. Morton readily consented to make the effort.

Shortly after this event the Doctor was called on urgent business to a remote part of the State, and there detained several weeks. In those days news travelled slowly, and it was not until his return home that he learned, among other neighborhood items, that Mr. Morton's body had been accidentally discovered about a fortnight before, lying dead upon the floor of his laboratory. Death had, apparently, occurred suddenly, as from a shock, and a coroner's jury had assigned "cerebral congestion," as the cause. A search of the "castle" had afforded but little clew to the nature of the strange work in which its occupant had been so long engaged, and added nothing to any knowledge of results of his experiments.

[Written for the MEDICAL BRIEF.]

Suggestions as to Cancer.

BY EPHRAIM CUTTER, M. D.,
New York City.

Position of the writer: Two paternal uncles died of liver cancer, his first wife's father died of stomach cancer, her maternal great-grandmother died of breast cancer; she herself had uterine cancer, was treated, and lived twenty-two and one-half years, to die of locomotor ataxia and cystitis; our youngest son, dying at twenty-three by poison, was found to have liver cancer; my oldest son now has what appears to be bowel cancer. Hence, this subject is one of intense interest to the writer. Indeed, it is a matter of life and death, and has to be dealt with most seriously.

Suggestions from this standpoint:

(*a*) Give the disease a better name. Cancer means crab, crabs are not malignant. For many years the writer has maintained and published that cancer is tissue under mob law. This was suggested to him fifty years ago by the case of a man whose many physicians could not name his disease, but the *post-mortem* examination revealed some one hundred cancerous conditions and tumors, varying from a large cyst on the liver, with fluid contents, blue as the clear sky; varying from free neoplasms on the pleura and peritoneum, of different colors and flatish shapes, some of them escalloped like maple sugar cakes; varying in size from small nodules in one testicle to a big semi-solid fibroid tumor that saddled the lumbar vertebra, whose bodies inside were black, as if charred. Surely here normal metabolism was all upset, and the tissues ran riot to destruction.

On the principle of this case and name, treatment should be based on the idea of restoring the normal government of the body systemic. The writer would lie if he said that he had had and has no cases that were cured on this plan; or to put it better, cured by *natura naturans;* that is, God, being re-established in vital power by stopping leaks of force and causes of debility, and by conferring abundant dynamics, or power to work with, and to overcome the mob in the tissues.

(*b*) Do not conventionally follow the example of some surgeons in 1884, who said that a man had cancer of the right carpal and metacarpal bones. While he was treated on these plans they amputated his hand. He recovered. The surgeons then said it was not cancer, making void their own diagnosis. In 1897, he was well; death not yet reported. Thus, they stultified the system of medical education, discrediting the faculty. For if the nosology includes cancer that can not be diagnosticated by the average physician, it should be expunged. What is the use of studying medicine, if one can not learn to tell cancer?

(*c*) Tuberculosis was once called incurable by the profession. Twenty-five years ago the writer published in the "Transactions of the American Medical Association" seventy-two cases of consumption, twenty-six of them cured. Also, in 1890, reported one hundred cases to the International Medical Congress at Berlin, with forty-two cases cured, most of them standing ten years cured. But this was, apparently, in vain. Now, however, the profession reports half of such cases cured. May the time come when cancer will have fifty per cent of cures. To sit down and say at the outset that a case can not be cured is as sensible as was a young physician who, approaching his first obstetric case, made up his mind to fail, diagnosticated prolapsus vesica, and called in his rival, who found normality. Take cancer as tissue under mob law, and fight it by stopping causes, furnishing the maximum of force in the foods, and giving *natura naturans*, dynamics, or power to cure.

(*d*) Collect information of cases cured, or said to be cured, from all sources. Ovariotomists do not think the glory of ovariotomy dimmed because a French swineherd spayed his erotic daughter, and is regarded as the first ovariotomist. It ought to be possible that the celebrated cancer commission of Europe and America investigate all alleged cures, to know the present state of knowledge without impairing professional relations. Follow the ethics of the United States Supreme Court.

(*e*) Study the effects of getting the system in good running order, as evidenced by physical signs, especially of

clinical chemistry and morphology. That is, see what procuring a normal blood, normal urine and normal feces will do in a case where *natura naturans* is all the time trying to cure physically and spiritually. The fact that the urine of sick and diseased adults can be made like the urine of healthy babes on healthy mothers' breasts, is proof that nutrition can be cultivated so as to restore kidneys to normal action. Also, the fact that the normal morphology of the blood and feces can be likewise had, establishes that *natura naturans* can be aided to restore the reign of normal metabolism. Medicines are as oils to the machine. This study is a most favorable field of promise in cancer, as verified by me as a propounder.

(*f*) Note what overthrowing tissue mob law did in my experience. About 1884 a woman was carried out of the Columbia Hospital, D. C., on a litter, to die of uterine cancer. At the Berlin (1890) International Medical Congress the writer met the chief physician of said hospital, and asked him if it was really a case of cancer. He said, "*Yes*," adding some very complimentary remarks. At last accounts she was alive.

Later, a woman was treated in California for cancer of the breast, thus named by her physicians. After a year we met in New York. Breast normal. The writer is careful to state that he is not the author of these plans. Dr. James H. Salisbury was, who died a short time ago.

(*g*) Mind the spiritual foods, for there are foods of the spiritual kingdom. Music is such a food, and medicine. It is a good adjuvant in treatment. It is a biologic form of motion that confers dynamics, or force, to motions and emotions of life. Joy is like unto it. But grief is a bad spiritual food. One case of mine was upset by an opium-eating son, a physician of brilliant parts, who so grieved his mother and exhausted her dynamics that she had not enough left to quell the tissue mob that ravaged her breast. In the MEDICAL BRIEF, August, 1905, Dr. Hayes mentions suggestion in the treatment of cancer. This is a spiritual food, akin to music. Some aver that music is nothing but suggestion. Music was employed in the case of my wife alluded to. It was part of her life. The trios of Haydn, Beethoven and Mozart were used as spiritual food at morning prayers during her convalescence, and later. Such music increased the force of the heart, promoted the excretion of carbonic acid gas, equalized the nerve force in the ganglionic nerve centers and, being a form of biologic motion, promoted digestion, quieted the sympathetic nervous system, etc. The good that music does may be defined as follows: The nerves of cerebration steal force from the sympathetic nerves when tired, and hence disturbs the nutrition. Feed the sympathetic nerves with music; they get stronger and can give more force to the brain nerve centers. I suppose that no one doubts that nerves are soothed and fed by music. Now, if our argument is right, the way to treat malignant disease is by restoring, not only nerve, but all other forces of Nature that combine to maintain life.

(*h*) It was a great saying of the author of these plans that "*after all, it is Nature that cures. We doctors do not cure anything.*" This idea is in Psalms ciii., 3, "Who healeth all thy diseases." So it can be said of Dr. J. C. Warren's octogenarian case of breast cancer recurrent (mentioned by Dr. Hayes), as having a tendency to a cure spontaneously; nodules gone and health restored at the end of a year—that Nature cured her. So long as in Him we live and move, and are, (Acts, xvii., 28) *natura naturans* must not be left out of the account. Perhaps said lady would have had a better cure if her nutrition had been looked after, as laid down above. The writer has had such cases recover, and stay so for ten years and more.

(*i*) Dr. Hayes mentions, as the cause of cancer, according to Bell, being a disease of trophic nerve disturbance. This voices the idea of nutrition under mob law, and the need of re-establishing normal nutrition by proper feeding, suggestion and music included. Surely, in order to enable the natural systemic forces to counteract and control, they must be well fed by all the kingdoms of food. Suggestion alone is not enough, as Dr. Keyes says. Patients must eat air, drink water, and swallow food. They should have the best of all foods. For example, food that cures albuminuria.

(*j*) The said author commends for cancer, surgery, then suggestion. He

quotes Ferrier as having, at the end of two years, four patients alive out of eighteen total extirpations of uterine cancer. Dr. H. O. Marcy says that cancer cases that live two years are called cures. Fritsch, at the end of three years after the total extirpation of uterine cancer, had two patients alive. Contrast this with the twenty-two years and a half that the case alluded to above of uterine cancer had lived, to die of other disease that was treated on the plan of subduing, by proper feeding, the mob tissue law. There are others.

This paper is not controversial, but commendatory and historical. It should be said that there is a National Society of Musical Therapeutics that is studying the subject, and has already done a good deal. Miss E. A. Vesalius is president. She is a direct descendant of the great anatomist, Vesalius. Carnegie Hall is her address. Those who can throw any light on music in cancer, or other disease, would do well to contribute to the archives for study and reference.

949 Broadway.

[Written for the MEDICAL BRIEF.]

The American Man—Crime Increasing.

BY GEORGE H. TICHENOR, JR., M. D.,

New Orleans, La.

Stop and think for a moment! Is it any wonder after what has been stated in the foregoing chapters, that statistics show that crime is increasing more rapidly than population in England, Germany and the United States, the three leading nations of the world to-day. According to the *Chicago Tribune*, the number of homicides and deaths by violence of every kind, in 1905, as reported by telegraph, shows a considerable increase over 1904, being 9,212, as compared with 8,482 in the latter year. The striking feature of the record is the increase of murders committed by highwaymen, burglars, etc.—582, as compared with 464 in 1904, 406 in 1903, 333 in 1902, and 103 in 1901.

The various causes of all these deaths by violence are as follows: Quarrels, 5,111; unknown, 1,722; by highwaymen, 582; jealousy, 579; insanity, 237; infanticide, 121; resisting arrest, 69; highwaymen killed, 59; self-defense, 39; strikes, 38; riots, 13; outrage, 10.

The following, showing the number of lynchings since 1885, is of use to those studying criminology: 1885, 184; 1886, 138; 1887, 122; 1888, 142; 1889, 176; 1890, 127; 1891, 192; 1892, 285; 1893, 200; 1894, 190; 1895, 171; 1896, 131; 1897, 166; 1898, 127; 1899, 107; 1900, 115; 1901, 135; 1902, 96; 1903, 104; 1904, 87; 1905, 66.

Self-murder is steadily increasing: 1899, 5,340; 1900, 6,755; 1901, 7,245; 1902, 8,291; 1903, 8,597; 1904, 9,240; 1905, 9,982.

The proportion of suicides as between men and women remains about the same. About twice as many men commit suicide as women every year. The numbers in 1905 were 6,556 men, and 3,426 women. Physicians, as usual, head the list among professional men, the number in 1905 having been 34, as compared with 32 in 1904, 35 in 1903, and 52 in 1902.

Is it not time to rouse ourselves from that lethargic sleep which has been caused by the "doped" literature and *douceur* pamphlets of the sleek and gouty clergy of the "fashionable" churches, and eminent college presidents, whose popularity and fame has been spread abroad by LL. D.'s most beneficially conferred. In the name of heaven and all that is dear to you, is it not time to take steps, as even godless France is succeeding in doing, to decrease crime.

Why France should prove an exception, and the United States not, in this respect, the following are the reasons:

1. The selfish and avaricious spirit of the people—passion for mastery—a sort of abnormal appetite that besmacks of mono-insanity to lord it over thousands, and find gratification in such distinction—the "big man" in business.

No other explanation can be given for such incessant striving, which can only take into account the passion for domination.

2. The rich control and often corrupt legislation.

3. Nations protect property of the rich, rather than the struggling class.

4. Laws passed to improve social conditions of the struggling wage-workers are in advance of their mental and moral training; therefore, it oppresses them;

hence, from this class comes eighty per cent of the criminals.

Contributing causes are maladministration of laws, and the fee system as, for instance, the sheriff getting compensation out of arrests. Not enough separate confinements, or homes or houses of correction and juvenile courts for first offenders, who are cast indiscriminately with habitual offenders, which method has wrought a marked decrease of crime in France, while it is on the increase in other countries.

Remedy.—We need reliance upon formative and constructive methods rather than those in vogue now—repressive and retributive ideas of justice.

There is no doubt about the signs of increased family degeneracy, crime in its various phases and, also, adultery.

Also, that the public is becoming indifferent in its attitude towards it. It has been only recently that the Committee of Fifteen, of New York, which investigated the social evil, recommended that adultery be erased from the catalogue of crimes. Public opinion would not have been tolerated thus even fifteen years ago. Institutions for the care of children are taking the place of the family, and fifty per cent of the population of reformatories are either orphans or children of divorced couples, which abandonment has a chilling influence upon the character of the child, as well as the parents.

Coming to pathological conditions, it is unfortunate that the statistics of the insane, blind, deaf, and criminals of various varieties—syphilitic—are so imperfect as to draw little conclusions from them. We should have a national anatomical and physiological census of school children taken every ten years, and criminal and divorce statistics.

Every physician of extensive practice in the cities, however, is aware of the alarming increase of venereal diseases, and also nervous diseases produced by a prolonged, continuous, monotonous occupation, etc.; insane asylums are overflowing. Authorities are telling us that insanity is increasing in greater ratio than population; that millions are being spent to care for the insane, and are advocating a sexualization of criminals and defectives.

In the United States statistics show that the death rate from consumption is frightfully high, as compared with other countries, and is increasing. In Europe the conquest has been steadily advancing. In Prussia, at the present rate, it would seem, it will entirely cease in twenty years. In 1887, the drop began, and the death-rate from this cause has decreased since then from thirty-one to twenty-one per one thousand population.

In England, in the same period, the drop has been from twenty-four to nineteen.

Physicians are beginning to find that the dyspeptic patients, who are engaged in bookkeeping, and other desk-work, are almost incurable, owing to the fact that the writing attitude is most unphysiological.

Seamstresses sit in chairs until the pressure on the edge of the chairs give rise to sciatica. Writers' "cramp," waiters' "weary legs," etc., are conditions which the public are beginning to understand, as well as the physician. With all this strenuous work are we becoming better educated? Take, for instance, the comparison of the South and West, where competition is not as close as in other sections of the country. The percentage of high-school boys to the total population of the eleven Southern States is four per cent. While in California, Iowa and Indiana it is 1.27 per cent. According to a leading educator the prospective vocations of 97.3 per cent are industrial and commercial, and 2.6 per cent are likely to be professional. Of eighty-two members of Congress less than half attended college.

4007 Magnolia Street.

[Written for the MEDICAL BRIEF.]

Lest We Forget.

BY A. NOXON, M. D.,
Toronto, Canada.

Editor Medical Brief.

SIR:—I wish to thank the members of the BRIEF family who so kindly responded to my appeal for advice and help in the case of epilepsy which I reported in the January number of the BRIEF. Fraternal sympathy costs but little, and is highly appreciated. Lest we forget.

[Written for the MEDICAL BRIEF.]

Pneumonia and Its Treatment.

BY L. E. BARTON, M. D.,

Malta, Ill.

This subject is much discussed. When we read of modern Aesclepiadæ treating hundreds of cases in a routine manner, sometimes with one or two deaths and sometimes none, we, who have met the dread disease in its most hazardous forms, can scarce suppress a smile. Would that some of our modern writers were endowed with some of the distinguishing mental qualities of Hippocrates, namely, "patient observation, logical reasoning and faithful recording of facts and deductions." A disease of varied forms must, of necessity, have varied treatments. The modern physician, as in days of old, should be philosopher as well. The superstructure of his medical education should be reared from the basic elements of the sciences, viz., anatomy, physiology and chemistry. A knowledge of structure enables us to understand function, thereby we are enabled to apply physiological laws in the cure of disease. In acute lobar pneumonia physical signs reveal an unusual quantity of blood in the lung, either during or shortly after a chill. We have a contraction of the capillary circulation; we know the vaso-motor center is disturbed, it has, as it were, drawn in the reins, the proportionate amount of blood in the superficial vessels is lessened, therefore, there must be an abnormal amount in the interior of the body.

If physical signs reveal an abnormal quantity in the lung, that organ, at least, is involved. Our treatment should be to relieve an internal congestion. As to how heroic treatment should be would depend upon the constitution of the patient. If the vasomotor is disturbed our first duty would be to quiet it, or to a certain extent numb its sensibilities; for this purpose nothing would meet the indications better than opium, or some of its derivatives. With the vasomotor in a condition that it has lost its hold on the reins, and by taking advantage of the relaxing effect of heat, we can soon have the capillary circulation restored, and water oozing from every pore. So far, we have certainly assisted Nature. We can again reason that the intestinal tract will not only act as a great eliminating surface, but if irritated by a cathartic its great vascular area will attract much blood from the seat of congestion. Why specify calomel? We have our choice of a wide range of cathartics.

The chief indication of treatment would be to attract the blood to the surface of the body, and cause depletion and elimination through the skin by applying heat sufficient to relax the system to the point of copious perspiration, continued from three to six to twelve hours, as indicated by the case. A sufficient quantity of cathartics should be given to cause three or four copious discharges from the bowels, through which process we get still further elimination, depletion and counter-irritation.

This general treatment I have relied upon in acute lobar pneumonia during a period of ten years, and under favorable conditions the majority of my cases have been aborted, but this is only one phase of the disease, and there is a necessity of nice discrimination on the part of the physician just how far this treatment should be carried, or how heroic it should be. In a strong, previously-healthy person there is little danger of doing harm if vigorous treatment is long continued, even up to twelve hours.

After complete hepatization has taken place this course would be harmful, but after twelve, or even twenty-four hours, I have seen it ameliorate the symptoms by greatly reducing the area of hepatization.

I will report two recent cases of this class:

Mrs. A., aged thirty, called November 10; found patient in labor, suffering from influenza. Temperature, 102° F.; severe neuralgic pains; labor pains for twelve hours ineffectual; nervous irritability, and finally nervous depression; dilatation incomplete. Applied forceps high up. Child was delivered in good condition, but mother in a state of partial collapse, from which she recovered in twelve hours. Neuralgic symptoms continued, but otherwise marked improvement. On second day a severe chill. Temperature after

chill, 106° F. Two hours later an overwhelming congestion of the right lung; countenance livid, patient delirious. Gave acetanilide, seven grains; morph. sul., one-quarter grain. Applied external heat. Gave three comp. cathartic pills. Three hours later temperature was 102° F. Left directions to keep patient sweating until my return, twelve hours later; temperature, 99° F.; bowels moved four times copiously. At three P. M., the same hour that the chill occurred the day before, another chill, but not severe; temperature rose to 103° F. Continued sweating treatment six hours, temperature 100° F. Twelve hours later normal. Rusty sputum on morning after first chill.

Case 2. Albert G., laborer, February 5 returned from work feeling badly, slight rigors during the night. Was called two P. M., February 6. Found patient suffering greatly from inability to breathe; coughing violently; crepitus over lower lobes of both lungs; also bronchial râles over the chest; temperature 105° F. Gave codeine, one-half grain; applied external heat, gave four compound cathartic pills. Called at seven P. M. Temperature 102° F.; eight A. M., temperature normal. At four P. M., slight chill, temperature rose to 103° F.; repeated sweating process during night. Next morning at eight o'clock temperature was 99° F.; following day, normal. Rusty sputum from time of first call.

During the earlier years of my practice these severe cases were a terror. Consultation was asked for early. We treated them in the routine manner: Aconite for fever, quin. sul. to sustain the strength, amon. mur. or carb. for cough, paid proper attention to regulating the bowels, used counter-irritants, and rather early in the disease alcoholic stimulants. With what results? We either had a subject for the undertaker in the course of a week, or one so near transition to the Elysian fields that our skill was recognized and applauded because he did not die.

If disease is not aborted, it is not my intention to discuss the indications for treatment, but will simply say we must assist Nature, and feel conscious that the patient has not recovered, in spite of powerful remedies misapplied.

[Written for the MEDICAL BRIEF.]

On Circumcision.

BY E. C. SCHOLER, PH. G., M. D.,
Chicago, Ill.

In the January number of the BRIEF I notice an article written by Dr. E. A. Timmons, of Columbia, Tenn., in reply to my article on "Circumcision," published in the September issue of the BRIEF. If the Doctor would have carefully perused my article he would, no doubt, have noticed that I am not trying to avert or do away with the necessary operation of circumcision in indicated and unavoidable conditions, but my article was merely written to show how often, with proper precautions and attention at birth to the infant's organ, the abnormal conditions can be corrected and put in normal condition without operation. Then again, the Doctor classes my method of loosening adhesion and dilating the preputial membrane as very painful, and far more barbarous than the operation of circumcision.

My dear Doctor, you undoubtedly have forgotten that we have now valuable local anesthetics for minor surgical work that are perfectly safe and produce complete anesthesia of the parts to which same is applied, and when applied to the glans penis and membrane make my method perfectly and absolutely painless. I am thoroughly in accord with Dr. D. A. Mohler's article in the February BRIEF, in the idea that wholesale circumcision is ridiculous, and most often uncalled for; and that by removing the preputial membrane and allowing the glans to remain exposed and uncovered, the sensitiveness and sexual sensation and pleasure is, in a measure, destroyed. The preputial membrane was certainly put there for a valuable purpose (to protect this highly sensitive part), and I, for one, am opposed to the removal of same unless absolutely necessary, and feel that most of my fellow-practitioners will bear me out in my opinion, that a normal preputial membrane is of great advantage to the organ. I felt, after reading the article, that a reply was in proper form, and hope in my doing so I have caused no one to feel hurt in expressing my candid opinion.

Corner Lincoln and Cornelia Avenues.

[Written for the MEDICAL BRIEF.]

Treatment of Pneumonia.

BY GEORGE R. TUBBS, M. D.,
Plainville, Ind.

This is the season in which our attention is called to this dreadful disease that causes twenty per cent of the whole number of deaths in the United States, and this per cent is on the increase, and is slighly greater than that of tuberculosis.

The mortality in the aged is frightful, according to Osler from fifty to eighty per cent in those above the age of sixty years. The mortality in private practice is from eight to fifteen per cent, and in hospital work about twenty to thirty per cent.

In the face of such a mortality we must put forth our every effort in wrestling with the disease. Each case should be studied, and an endeavor made to find the peculiarities of the patient, and we will often find them suffering from some disease previous to contracting pneumonia, which often complicates the case, and if we are not careful of our treatment we will seriously injure our patient on account of these diseases.

The utmost care should be taken to see that remedies indicated by the diseased lungs are not contra-indicated by disease elsewhere.

Two cases serve as an example:

Some four years ago I was called to see an old soldier and found him suffering from pneumonia. I gave him one and one-half grains of calomel in half-grain doses, one hour apart. The calomel was the cause of intense suffering, and came nearer killing him than the pneumonia. I had made no special effort to find out the condition of the bowels, except that at the time he was constipated. So I was ignorant of the fact that he had had a periodical diarrhea for years.

More recently a neighboring physician was absent from the country for a few days, and I was called to see a patient of his suffering with pneumonia. I found a severe hematuria and other symptoms of nephritis, following the use of turpentine. I am sure this physician did not take the trouble to find out that the patient had suffered from kidney trouble several times, or he would not have used turpentine.

This is a phase of the treatment of pneumonia that is carelessly regarded by many physicians (and it applies to other diseases as well).

The disease is self-limited, and about all that can be done is to assist Nature to overcome the various complications as they arise, and support the whole system that it may combat the toxemia. There has been no universal success with aconite, veratrum, large doses of digitalis, ergot, salicylates, or any of the sure cures extolled from time to time.

One of the first things in the treatment of pneumonia is to see that the sick-room is quiet, and in order to maintain quiet exclude all visitors. Only one or two should be allowed in the room, and they must be cautioned to keep absolutely quiet.

The ventilation must be good, but care should be taken that the patient is not in a direct draught of air.

Keep the temperature from 68° to 70° F. If the patient is old, or one very much enfeebled, the temperature should be kept eight or ten degrees higher. Keep a thermometer in the room. No one can judge the temperature without a thermometer. If a stove is used for heating, a pan of water should be kept on it, thus keeping the air moist and more easily breathed.

The bed should be comfortable. I like best a cotton mattress on springs. Change the bedclothing and also the clothing of the patient as often as soiled.

Give a light and wholesome nourishment in small quantities, every two and one-half or three hours. Milk, eggs, soups, gruels, milk and mush, or some of the breakfast foods. Use extreme care in the feeding, lest flatulence set in, which is a serious hindrance to respiration, if nothing more. Give the food and drink through a tube, a feeding cup, or a spoon.

The patient should not be raised up to either eat, drink, or take medicine. The horizontal position must be maintained throughout the attack. The patient being turned, however, from side to back and *vice versa*, to prevent stasis. In changing the position it should be remembered that lying on the unaffected side will greatly

hinder respiration, and should not be done unless the patient so elects.

Give abundance of water, not only when asked for by the patient, but oftener if he be not wholly conscious.

Use the bed pan; it is as important in the treatment of pneumonia as in typhoid. A saline solution or a mouth wash used after each feeding will keep the mouth clean, and will do much toward healing the herpes.

The sputum should be caught on paper or cloths, and burned before it becomes dried. All clothing and bedding used about the patient should be boiled thoroughly before being washed, as a protection.

In the local treatment I have ceased to use the cotton jacket. The same benefit can be had from the use of a strip of flannel, wide enough to reach from the top to the bottom of the chest, and long enough to go around the chest and lap a couple of inches. Two slits, or holes, should be made near the top side for the arms. Put this snugly around the chest and fasten with safety pins. It is less bunglesome than the cotton jacket, and examination is so much more convenient.

I seldom use poultices, and then only to relieve pain. Wet cups to the affected side is one of the best things that can be done, if resorted to early in the young, full-blooded adults.

In some sections of the country onion poultices are often used. I have used them, but never saw any benefit from them, more than can be had from any other hot application, and our olfactories would certainly rejoice if they were never used.

Turpentine and vaseline, or lard, applied to the chest on a woolen cloth, will often mitigate the oppression.

In our treatment we must watch the heart, but we must not lose sight of the fact that other organs must be watched as well, or they will slip up unawares and carry off our patient.

Do nothing in the treatment that will embarrass the already overworked heart. The routine giving of strychnine, digitalis, nitroglycerin and other heart stimulants is seriously to be condemned. The reserve strength of the heart should be husbanded for the time when it will be needed to pump the blood through the solidified lung, and to overcome the toxic effect of the disease.

Alcohol, in the form of whisky or brandy, has always been my favorite heart tonic. It has the power of evenly distributing the blood, and thereby lessening the resistance to the heart.

There are cases in which it seems valueless, but we must use it in drunkards throughout the attack or we will have *mania a potu*.

When the pulmonic second sound gets weak, the pulse small, and the tension low, give whisky in from one-quarter ounce to three-quarters ounce, every hour. If the pulse does not improve, after a few doses, and the tongue and skin become moist, give one-thirtieth of a grain of strychnine hypodermically every three hours, until the physiological effect of twitching is produced; or, if it is impracticable to use the hypodermic, give one-twenty-fifth grain strychnine orally every four hours until effect is produced.

When the pulmonary second sound is increased, and the patient cyanotic and dyspnea is present, give one one-hundredth grain to one one-fiftieth grain nitroglycerin with the strychnine as above. The effect of the nitroglycerin on the capillary circulation reduces the resistance to be overcome by the heart.

Amylis nitris has been used by some physicians with marked success. It is given by inhalation in such a way that one drachm is used in six hours. The use is kept up for some days after defervescence.

Digitalis is a good agent, but it is apt to nauseate and vomit, which seriously disturbs the quiet that is so necessary for the patient.

In uremic complications it is one of the very best agents, when used as an infusion.

Aromatic spirits of ammonia is often effective, and sulphate of atropine will often revive a failing heart.

Citrate of caffeine, by both its action on the heart and kidneys, is useful.

Examine the heart and circulation at every visit, and if reason is used the proper treatment will suggest itself.

Always bear in mind the heart stimulants are not to be used until there is evidence of heart failure.

The antiseptic action of creosote on both the lungs and the alimentary tract, its stimulating and expectorant qualities; also, being one of the best agents we can use in any septic condition, renders it one of the best agents we can use in many cases of pneumonia.

Expectorants are demanded, but not until resolution has set in; it is folly to give them before that time. The ammonias are the best, but they should be active to be of benefit; those which have been exposed to the air are valueless. They should be given in solution, combined with pepsin and fluid extract of cocoa. The nurse should be cautioned to keep the bottle well-corked.

The larger part of the product of resolution is absorbed and not expectorated. In fact, the amount expectorated is not to be compared to that that is absorbed, in most cases. This being the case, I feel no uneasiness if my patient expectorates but little, if his lungs are clearing up, and he is doing well in other ways.

The constipation that is often present is best met with calomel and magnesium sulphate, either separately or combined.

Diarrhea is amenable to regulation of the diet, and some of the intestinal antiseptics.

Hot applications to the side, and codein or Dover's powders will relieve the pain that is often present. The latter will also check the harassing cough.

Hyperpyrexia is best controlled by hydropathic measures. The coal tar preparations should never under any circumstances be used.

Sleeplessness will give way to sponging and cold pack to head.

Pleurisy is usually present, but is often of a dry, plastic form. Sometimes, however, there is an effusion, which may be masked by the solidified lung, and is not detected until there is a displacement of some of the organs.

The lung, being solid and not giving way to the effusion, will cause a small amount of fluid to seriously displace the heart, and for that reason aspiration should be resorted to at once. Aspiration is sometimes the only diagnosis in such cases.

Keep close watch, at time of crisis, for any indication of collapse, which should be promptly met by applying external heat, giving whisky, and by hypodermics of strychnine, and hot saline injections into rectum.

After the patient has recovered, the sick-room should be thoroughly scrubbed with an antiseptic solution, then all windows and doors securely fastened and one pound of formaldehyde evaporated in it for every thousand cubic feet of space. If a suitable apparatus is not to be had, a half-gallon bucket suspended from a stick laid on two chairs, with an alcohol lamp beneath, may be used. The room should be kept closed for twenty-four hours, then opened and, after airing awhile, is as free from danger as it ever was.

[Written for the MEDICAL BRIEF.]

Electro-Static Machine, Report of Cases—Rheumatism, Sciatic.

BY J. L. CARTER, M. D.,
Maxwell, Ky.

Rheumatism is probably one of the most complex problems that confronts the doctor and the sufferer. More cases of pain are called rheumatism than should be.

And yet there can be no doubt that rheumatism, or some of its kindred, is responsible for many things which in the past it was not charged with. For instance, who of us can not remember many a child that has been allowed to cry itself to sleep with aches and pains, rheumatic in character, due to exposure and improper diet, and told that he must bear them because they were growing pains, which were evidence that he was growing, and would soon be a man.

One of the recognized authorities on pathological anatomy has said that "the nature of the proximate cause of rheumatism remains today one of the most unsettled questions of pathology, and little has been added to our actual knowledge in relation to it since the earliest times, although so much accuracy in its clinical aspect has been acquired meantime."

There are many theories regarding the origin of rheumatism, the humoral, which was that: "The deflection of an acrid humor generated in the brain, and carried

into the various parts of the body." We must, however, consider carefully other theories, which have been studiously wrought out, and have reached the sanction of eminent physiologists, pathologists and clinical workers. Of these theories four demand very special notice:

1. The local theory.
2. The specific poison theory.
3. The vascular theory.
4. The vaso-motor, or nervous theory.

Rheumatic pain in the body is usually named by the laity according to its location; for instance, if the pain is in the muscles of the back, lumbago; if in the gluteal, thigh and calf, sciatic rheumatism, and as so-called sciatic rheumatism is the bane of the doctor's life, and also makes life anything but pleasant for the patient, and as the medical treatment by liniments, pills and powders is so unsatisfactory, I want to report a few cases of that dread disease that I have treated by static electricity; a current of high frequency, high potential "generated" by the electrostatic machine.

First, let us consider briefly the course and distribution of the great sciatic nerve. This is the largest nerve in the human body, and supplies nearly the whole of the integument of the leg, the muscles of the back and thigh, and those of the leg and feet. The sciatic nerve measures about three-quarters of an inch in breadth, and is a continuation of the lower part of the sacral plexus. It passes out of the plexus through the great sacro-sciatic foramina, below the pyroformis muscle. It descends between the trocanter major and the tuberosity of the ischem, along the back of the thigh, to about its lower third, where it divides into two large branches, the internal and external popliteal nerves.

On account of the great distribution it is exposed to a great deal of violence—either direct, or due to muscular action. It is probably attacked more often by one or the other of the four causes of rheumatism than any other nerve in the body. Those of my readers that are seeking the cause of rheumatism with a view of removing it, can take either one of the four causes named, and drug your patient to your heart's content, and your patient's utter disgust; and yet he has sciatica. You try to eliminate the poison, specific in nature, and certainly elimination is the only rational way to treat this disease. I will try elimination by electricity.

I am not decrying the action of drugs in this trouble, but it is a well-known fact that where so many remedies are put forth for any one disease that the specific has not yet been found, or if found has been improperly applied, from one cause or another, and hence the treatment of that disease and patients affected with it drift into the hands of the quack and fakir. I am not coming with any new treatment when I introduce electricity. for this great agent has been used for centuries. Why, then, has it not been or is it not used more extensively? Because until very recent years static electricity was not on a permanent basis, owing to the inferiority of the machine used in "generating" it. But since the electrostatic machine manufacturers have given us a well-built machine, and put the source of our supply of electricity on a permanent basis, and by competition has brought this instrument within the reach of almost any doctor, there is no reason why any doctor need let his chronic or acute rheumatic cases drift into the hands of quacks and fakirs.

Now, I wish to report one case of chronic rheumatism—fourteen others on my case book—that is typical under my care, also one acute case, also typical, and will suffice. I will speak of the technique below. These cases were treated by three modalities, viz., static insulation, the induced current, and the wave current of Snow & Morton. Mr. X. A. B., aged fifty-seven, white, merchant, had been having attacks of "sciatica" for twenty years, the attacks coming on every few days and lasting for a week, and would at times render him almost helpless, while at other times he could go ahead waiting on his trade, but the pain was there almost constantly, especially in winter he had a great deal of trouble. September 30, 1903, he called at the office for treatment. Mr. X. received in all six treatments, ten minutes each, of static induced, static insulation, and wave current. During the first one he was entirely relieved of pain. I told him to come back when the pain returned. October 2 he took the second treatment of thirty minutes' duration,

when he was again free from pain. Again he was told to apply for treatment when the pain returned. Treatment No. 3, October 7; No. 4, October 15, and No. 5, October 20. After the fourth treatment he had no more pain, but as he had also been a sufferer from constipation and, as he said, to make sure of a final cure, he called again November 25, 1903, thirty-five days after last treatment, and had the sixth treatment; more, he said, for his constipation than his "sciatica," as he had no more pain, slept well, bowels acted well, and kidneys acted much better than for some time. There has been no return of this trouble up to the present time. I could extend this report much longer, but I think one case is sufficient, as I have in my case book twenty-two such reports, and in not a single instance have I failed partially, or entirely, to relieve the pain on first treatment. I consider this so-called static electricity a specific for rheumatism, either acute or chronic. The teachers of electrotherapeutics bear me out in this claim.

Case 2. Acute Articular Rheumatism, or Synovitis.—Mr. P., aged thirty-six, farmer, very large man, healthy, while at work felt a dull throbbing pain in elbow joint; that night it got worse; next day by noon he had a chill, elbow much swollen and very painful; applied for relief for this intense pain. Mr. P. received a thirty minutes' application of the wave current, and left the office free from pain, and almost all swelling gone, and was at work next day. Such reports read like some patent medicine ad., but they are facts, as can be and have been demonstrated time and time again by those who have access to a well-built and skillfully-operated electro-static machine.

The Technique.—We have static insulation; that is, the patient is seated on an insulated platform three feet from and opposite to the active prime conductor in use. One side of the machine is connected to the table by the shepherd's crook, or a chain; the other side is grounded, the sliding poles are beyond sparking distance, and the crown breeze is from one to two feet above the head; the crown breeze is nothing more than a large stationary electrode-positive side; time of sitting ten to fifteen minutes.

Again, we have our patient seated in a chair, near the machine; attach the Leyden jars to each side of the machine; attach the patient to the "binding posts" on the base of the machine by two insulated cords; to each cord attach a small sponge-covered electrode, moistened in a solution of bicarbonate of soda; place one electrode stationary at the hip joint, and with the machine in motion open the sliding poles until you get all the "current" your patient will stand; move the other electrode about over the affected leg, over the knee, the calf kept moving; now, if you want to use "massage" attach the roller electrode in place of the movable sponge, and you can put life and vitality into the diseased limb.

This is the static-induced current, a two-pole current, a current of high frequency, high potential; a current of great therapeutic value in rheumatism, synovitis, pain and inflammation, either of an acute or chronic nature.

Why does electricity cure rheumatism, and especially after the medical treatment has failed? Take the specific poison theory: the poison is in the blood, it manifests itself by attacking the muscles of a certain part of the body, the nervous system is affected by the poison that is circulating in the blood, and in sciatic, as this nerve is the largest in the body, and exposed to all kinds of violence, both internal and external, the vitality of the nerve is lowered; hence a vulnerable spot for the poison to get in its work. Now, by applying electricity to our patient we stimulate the entire body, the nervous, the circulatory and muscular systems; we set up contractions and relaxations of a very rapid nature, we aid Nature by furnishing a new supply of blood to the part by causing a stagnated circulation to be replaced by new blood, not contaminated with a load of poison. Normal blood and nerve supply is furnished the part, inflammatory products are carried away, pain relieved and the system is not loaded with a poison worse than the first.

Please find enclosed two dollars for the renewal of my own and one new subscription to the BRIEF. It is getting better every day, and is nearly all solid gold now.—Jos. H. PITT, M. D., Weitchpec, Cal.

[Written for the MEDICAL BRIEF.]

Treatment of Diphtheria With and Without Antitoxin.

BY WM. PRETZMAN, M. D.,
Lincoln, Neb.

The treatment of diphtheria should be based (not unlike every other grave disease) on the most exacting physiological, as well as pathological, chemical, and therapeutic principles; all of which is worthy of our most sincere consideration, as this disease is found on every part of the globe, and is one of the most fatal diseases the physician is called upon to treat. But we find a wide difference of opinion, not in regard to the etiology, toxin, ptomaines or poisonous ferments, but in regard to the treatment; a difference that should not exist among intelligent physicians. We find doctors that can see nothing, think of nothing, and hear to nothing but antitoxin in the treatment of this disease; they even resort to newspapers, giving glowing accounts of their phenomenal success with antitoxin in the treatment of this disease. I was very much surprised to find a two-column article about three weeks ago in the *Lincoln Evening News* from the pen of one of our ethical physicians, who claimed that in the month of October he had treated one hundred and fifty cases, with a loss of only two and one-half per cent, while the health office showed over twenty per cent. This newspaper article warned the people that if any one died without antitoxin some one was to blame, etc. Now then, while there is no dispute about the etiology poisonous ferments, toxin or ptomaines of diphtheria, the honest, conscientious physician has a right, and it is his duty to find out, if he can, physiologically, chemically, therapeutically and bacteriologically the correct treatment to pursue, by close study and observation, and by asking questions from those who profess to know, what is antitoxin, and we find the metabolism of antitoxin to be as follows:

The manufacturer of antitoxin secures the bacilli from a diphtheritic patient, from which he makes cultures, and from which he obtains the diphtheritic poison called toxin; this toxin is tested as to its virulence on guinea pigs, after which they inject this toxin into a healthy horse; they repeat the injection until the manufacturer is satisfied of its potential powers, then the horse is bled, and the serum of the horse's blood is the antitoxin. That is again injected into a guinea pig, to test its potency, after which it is put up in syringes, marked five hundred, one thousand, two thousand, three thousand, and four thousand units, and sent all over the country as a specific in the treatment of diphtheria.

Now then, allow me to ask, what assurance have we that the horse from which the antitoxin was procured was a healthy horse, save the manufacturer's word? And if the antitoxin cures diphtheria in a guinea pig, is that positive proof that it will cure diphtheria in the human, unless the pig's anatomical construction and physiological functions are identical? If antitoxin is a specific, why do at least twenty per cent die that get the antitoxin? What pathological sign, age or sex require a certain number of units? What sign or symptoms are we to be governed by when a patient has had enough, or too much, antitoxin, and the antidote? The indefinite number of units to be given in the treatment of diphtheria appears to me to be a kind of a shot-gun remedy, and a reproach to scientific reasoning. It looks like building a castle upon the ruins of a dangerous speculative theory. As we are not advised by the advocates of antitoxin to use any of the old-established remedies for the constitution, throat, stomach, or bowels, they say nothing about the nascent oxygen, chlorine, or free circulation of the blood, remedies recommended by all bacteriologists.

I do not wish it to be understood that I deny the potential powers of pure antitoxin for good in the treatment of diphtheria, but I do say that impure antitoxin is a very dangerous poison. That was exemplified several years ago in the city of St. Louis, the home of the BRIEF. Also in the city of Lincoln, Neb., where two children in one family were injected; one died in less than fifteen minutes, the other died in less than thirty minutes. Another family of five children, the youngest of whom got three injections the first day of the attack and died that

night. The others recovered under the old remedial treatment. I lost a patient a short time ago; the parents wanted the antitoxin. I injected two thousand units in the evening. The next morning my patient was dead. Now then, I do not claim that the antitoxin killed my patient, but I do say without the fear of successful contradiction that the antitoxin did not cure it. Right here allow me to say that some of these ethical doctors condemn medical journals for allowing space for proprietary and patent medicines, while they resort to our daily newspapers, giving their phenomenal success with a remedy they know as much about as I do about patent medicines. We are advised, in order to obtain the specific action, it must be used the first day of the attack. I am willing to confess, although I have gone through a good many epidemics of diphtheria, that I am unable to differentiate every case the first day from membranous croup, follicular tonsillitis, scarlet fever, and other sore throats, the first day of the attack.

Let us now take up the remedial side of the subject, beginning with some of the elements of the blood, viz., normal arterial blood is found to contain about twenty per cent of oxygen, and about forty per cent of carbon dioxide, while the venous blood contains about twelve per cent of oxygen and about forty-eight per cent of carbon dioxide. Now then, according to bacteriological investigation, pathogenic microbes can not live, or induce infection, in the free circulation of normal oxygenated blood. We are taught, also, in physiology, when the oxygen of the arterial blood falls below the normal, carbon dioxide increases in the veins, which causes thickening of the blood, retards the circulating current with a disarranged irritability, the primative cause of capillary congestion, pathogenic tissue changes, and a nutritive soil for pathogenic microbes, poisonous ferments, toxin and ptomaines. The bacilli of diphtheria gets into the blood, or system, through food, air or water, and belongs, according to the teachings of bacteriology, to the morphological group, or genera, that is classified according to its biological character as zymogenes, pathogenes, etc., that invade the system and cause fermentation, in which the bacilli deposits its poisonous toxin; this bacilli is unlike the fecundated anerobe germ, that can live and multiply its species in the presence of oxygen, chlorine, and free circulation of the blood. It has been found by bacteriologists that a two per cent of oxygen gas will destroy any pathogenic microbe; it has also been found when oxygen is combined with chlorine it increases, not only the germicitic powers of oxygen, but strengthens the blood and enables it to combat congestion by stimulating the irritable factor of the capillary vessels, that prevents toxin, ptomaines and poisonous ferments. If we adopt the teachings of physiology, pathology, bacteriology, and chemistry, we must give and apply remedies that contain oxygen and chlorine, stimulants and tonics, not only to stimulate the physiological powers of nature, but to intercept the germ, not only in the circulation, but also the germ that is passing from the sore throat and mouth into the stomach, as well as the germ that is swallowed with food and water.

But we find the advocate of specific antitoxin prefers to take the manufacturer's word, without any scientific proof save the manufacturer's word, of its physiological, therapeutic or germicitic properties, whether the antitoxin was obtained from a young or old horse, whether the horse was in good health, or what pathological condition the horse was in while his blood was impregnated with toxin.

In the treatment of diphtheria we should endeavor, as far as possible, to keep the throat aseptically clean, with the peroxide of hydrogen and chloride of potassium ($Ko\ Clo_3$). Keep the liver active with calomel ($Hg\ Cl$), for the chlorine, as well as the antiseptic property of bile. Tincture of the chloride of iron ($Fe_2\ Cl_6$) for its tonic properties, and chlorine, together with stimulants. By following this procedure we fulfill every physiological demand of the system, viz., alterative effect of the mercury and antiseptic properties of bile, the tonic effect of iron, with oxygen and chlorine, so highly recommended by all bacteriologists. But hark! I hear a voice exclaiming, "That treatment is old, not up-to-

date; give us a rest from these old remedies, etc." Very well, I hear the band still playing, "Hail Columbia, Happy Land." We are yet alive, with plenty of sand, and are able to do some physiological boxing, while you fellows are out with horse serum, shooting antitoxin.

And now, in conclusion, allow me to say that I am not unconscious of the fact that this synthetic article will stimulate the jealous enmity of a certain class in our noble profession, and, perhaps, I may deserve punishment, not unlike the Elijah who was kept from starving by the ravens, or Achan and his army, who were stoned to death. Or, even the fate of Saul, who lost his kingdom. If so, let me be one of the hundred to help eat my portion of twenty barley loaves and corn. And let me stand upon Mount Nebo to behold the river of Jordan and the beautiful valley of the Nile, while my enemies are ignoring the fundamental principles of our noble profession.

[Written for the MEDICAL BRIEF.]

Vaccination—A Word with the Antis.

BY A. HAUSMANN, M. D.,
Ozuela, Mapimi, Mexico.

Every new discovery in science has to pass through a severe ordeal of opposition from honest conviction, prejudice, or ignorance, and must stand the severest tests of investigation before it is generally admitted as a truth. When the relations between visible phenomena can be expressed with exactitude by figures (in mathematical terms, as in physics and astronomy) the truth can be demonstrated so plainly and positively that any person with a normal mind must accept it, because he can not help it. Not in all branches of science can the phenomena be brought under the absolute system of figures, but the latter, the statistics, serve at least to determine numerical values; for instance, of a therapeutical measure.

At all times there are some perverted minds who can not, or will not, acknowledge the authority of facts, and the logical conclusions deducted therefrom, and whom it is impossible to convince of any truth. As the type of this class may be mentioned the renowned colored philosopher, Rev. Jones, who opined that "the sun do move"—he saw it with his own eyes, and no power in the world could convince him that the astronomers were right and he was wrong. In medicine we meet with similar spirits, who deny everything observed by others, if it does not agree with their own theories.

I quote the following from an article I recently noted against vaccination, and which I believe to represent the general attitude of the antis towards vaccination:

"The adherence to the vaccine superstition has prevented a study of small-pox as a disease, and I think in all the range of human ills there is no disease less understood than small-pox. This very general ignorance is not confined to the lesser practitioners, but extends to the *sanctum sanctorum*—the holy of holies—of medicine itself. This lack of knowledge has been accumulating for two hundred years; the one hundred years of the inoculation period, during which time Europe was a veritable pest-house, made so by the doctors, and the one hundred years of the vaccination period, the latter practice being so remunerative as to stifle all efforts towards a practical investigation of the disease itself; so the truth is, for two hundred years medical progress has gone backward, instead of forward, and what little is known has been kept alive largely by the dissenters of the profession.

"Small-pox, *per se*, is an effort of Nature to throw out through the skin the impurities of the body, etc."

From this bit of two hundred years of accumulated knowledge which a "dissenter of the profession" graciously offers the fraternity, it becomes manifest that the antis alone are endowed with the faculty of perceiving and reasoning, all the rest see things only as the animals do, without comprehending their relations. Only the antis are capable of progress, or discriminating between true and false, all the rest are bound to adhere to ideas taught them by authority, unable to change their mind. The antis have a monopoly on all that is good and noble in mankind. They refrain from deriving sordid gain from the nefarious practice of vaccination, while all the rest have no compunction to sacrifice health, or even life, of their fellowmen

for the munificent consideration of a fifty cents or a dollar vaccination fee.

When I relate some facts it is for the purpose of eliciting an explanation from some one of the opposition, because I am unable to draw any other conclusion from these facts than that vaccination does protect.

Some time ago I published an experience in Velardena, where, during an epidemic which wiped two hundred and thirty-eight children out of existence in one year, four or five children who had been vaccinated were spared, out of about twenty in the same building. Vaccination was not compulsory, but these facts did not escape even the attention of the stolid natives, and vaccination became quite popular thereafter. I have never seen an attempt at explanation made by the antis, whose policy is to ignore the inconvenient facts—the statistics—and argue in general, indefinite terms. I wish to warn them that the fee racket will not go in this case, because vaccination was gratuitous, and while I actually received a dollar once, I would have gladly given ten to be spared the work. I also assure the antis that my brains are not yet petrified. I am still open to conviction, and ready at any time to abandon any old, time-honored theory if some one proves, by facts, that it is wrong.

Ozuela is a mining camp belonging to the Co. Minera de Penoles, which has its reduction works, principal office and hospital in Mapimi, about six miles distant. On November 21, 1903, two cases of small-pox were reported in one house; one of them died, and on December 2 the third child took the same disease. General vaccination was ordered at once by the company, and until December 21, three hundred and fifty-two children were vaccinated in Ozuela alone, and over a thousand persons in Mapimi. It did not fail in a single instance. Three more cases occurred in December, with one death in a house where four children lived besides, that had been vaccinated and escaped the disease. In January six cases were recorded, with two deaths; five had never been vaccinated, but the sixth showed one small mark on one arm. Notwithstanding this insufficient vaccination this case was the mildest of all, the eruptions were not so numerous as usual, hardly any on the body and, what is more remarkable, they were scarcely half the ordinary size, and commenced drying off as soon as they appeared. The disease showed in every respect an abortive character. Two children in the same house, with two and three vaccination marks, respectively, escaped. To sum up: We had a total number of cases (among a population nearly as large as in Velardena) of twelve, with four deaths, or thirty-three per cent, none of them vaccinated with the one exception mentioned. In houses where small-pox broke out, and the children were not vaccinated, all the children took the disease. In houses where the children had been vaccinated none of them fell sick.

Now, in the face of these facts, my mode of thinking compels me to believe that vaccination does protect, and I wish one of the antis would kindly point out to me the error in my way of reasoning by offering a better explanation. As to the danger of vaccination, no serious accident occurred among the twelve hundred persons or more, but one child of fifteen months died. I only saw it after death and the vaccination sores did not show any abnormal character, but for the sake of argument I assume that it died from vaccination. Shall this one death out of three hundred and fifty-two restrain us from using this preventive in the future? If only one-third of the children vaccinated were protected against small-pox by this procedure (which, according to my experience, is a far too low estimate) then, at a rate of thirty-three per cent mortality, at least forty-five lives were saved, to compensate for the loss of one. Now, the gentlemen of the other side have the floor. Antis to the front!

[Written for the MEDICAL BRIEF.]

Gets Better Each Year.

BY J. LEE BYRON, M. D.,
Jackson, Ga.

Inclosed I send you my personal check for one dollar, for which please continue sending me the journal for one more year. It is only a press of business that I have not renewed sooner. The BRIEF grows larger and better every year. Please send Januarv number. I can not afford to miss one.

[Written for the MEDICAL BRIEF.]

Cause and Treatment of Chronic Constipation.

BY WILLIAM STEELE MOAT, M. D.,
Philadelphia, Pa.

In every locality throughout the country there are scores of boys and girls, men and women of all ages, who suffer from constipation—a condition of the bowels in which the evacuations do not take place as frequently as they should, or are inordinately hard, and expelled with difficulty. It may be due to either diminished action of the muscular coat of the intestines, or to insufficient secretion of the mucous membrane, or both. Cathartic medicine usually removes it for a short time. But in a few days the trouble returns, and the longer this condition exists, the less effective will either mild or drastic cathartics become. Now the exciting or predisposing cause must be ascertained and obviated, to render a permanent cure.

Some of the symptoms: Retarded action of the bowels frequently produce dizziness, headache, insomnia, palpitation of the heart, flatulency, symptoms of hypochondria and hemorrhoids. If long continued, it leads to dilatation, invagination, inflammation, and in some cases perforation of the lower bowel and rectum; also to cancer.

Constipation may be brought on by a diet containing too large an amount of indigestible matter, by a diseased condition of the mucosa, as in chronic catarrh, by muscular weakness of the intestines, from anemia, or the suppression of the desire for stool at regular hours, as we see with bookkeepers, shoemakers and tailors, particularly the latter (both men and women), who sit from twelve to fifteen hours out of every twenty-four; also from the abnormal loss of fluids, as with diabetes, profuse lactation, excessive perspiration, the too free use of opium, and several others that could be enumerated.

But now we come to a more serious and complicated condition than that of ordinary constipation—that of displacement, of which there are several kinds. But space will allow me to speak briefly of only three:

First, Prolapsus.—A displacement where the bowel is pushed or drawn down into folds, plaits, gathers and pockets of various dimensions, from one-eighth of an inch to two inches in diameter. These usually embrace only one-half of the circumference of the intestine and are located chiefly at the termination of the ileum, the descending colon, sigmoid flexure and rectum. To make these malpositions more clear, take a thin, flexible rubber tube, the size and shape of the sigmoid flexure and rectum combined. Now take a needle and thread and gather the right upper lateral half of the rectum (supposing it to be five inches in length) into the first inch above the internal sphincter. Then by the same process draw down the two upper inches of the left lateral half of the rectum and two inches of the sigmoid into the third inch above the sphincter, and you will have a fair picture of what is frequently the cause of many years' suffering. A case very similar to this came under my care last summer. A gentleman, sixty-three years of age, had been sick a year—confined to his bed a great portion of the time in hospital and other places. Was unconscious twelve hours on the 24th of last May in a distant city, but recuperated by the middle of July sufficient to come to Philadelphia and remained two months, when he was pronounced cured and discharged. Previously he complained of pain in back, sciatic rheumatism, at times unable to urinate, or evacuate the bowels. Internal and external manipulation and glysters of warm water cured him. He has had no relapse and is more active than for many years. These gathered, tucked or folded tissues, wherever located, become inflamed and swollen to such an extent as to almost occlude the intestinal tube. This is a condition not generally recognized by the medical profession, or if so, is most shamefully, if not to say criminally, neglected. I say this after having had fifteen years of daily experience along this line with chronic cases of from three to twenty years' standing.

Second, Invagination.—By this is meant the slipping of one section of the bowel into the cavity of that portion of the intestinal tube immediately below it, or in

other words, like a glove finger turned half off. I have seen the rectum invaginated at three different points at one and the same time, and this form of displacement is most liable to produce *occlusion*, from which malignant symptoms soon follow.

Third, Pockets.—By this is meant a displacement just the opposite from invagination, where a longitudinal section of the bowel becomes dilated by the accumulation of fecal matter, which varies in size from one inch to three inches in diameter, according to the location. If in the ileum or rectum, they are likely to be small, but if in the descending colon, or sigmoid flexure, they are apt to be very large. They vary as much in consistency as they do in size. Some are like stiff putty, others are dry and hard, and in one case that came under my care the impacted matter was almost two inches in diameter, and located in the lower third of the sigmoid flexure, and had been incarcerated long enough to become perfectly dry all the way through. This I know to be a fact, for when I emptied the pocket its contents fell to pieces, as though it had been dry, ground cork.

Some of the causes that produce these displacements are overstraining to evacuate the bowels, jumping down from high fences, sheds, fruit trees, etc., as we see boys doing in city and country; heavy lifting to show superior strength, or by making pack-horses of themselves for the delivery of merchandise and the like, is liable to produce curvature of the spine. Hernia of various kinds and the displacements that have been herein enumerated. Young girls skipping or jumping a rope too long at any one time, or carrying their younger brothers and sisters across the streets to avoid danger from trolley cars, or other motor vehicles, as we see here in the city, produce the same results as jumping and heavy lifting do with boys. If parents and guardians of the young would prohibit as far as possible immoderate lifting, straining and jumping alone, they would have healthier and more handsome children, escape much anxiety, laborious work, sleepless nights and burdensome doctor bills.

The lifting machine we often see on street corners, or at the various seaside and other pleasure resorts, has been the ruin of many young men of promise. It is astonishing to see how many men will stop and lift until almost blind, in order to show their strength. The professional athlete comes in for his full share of trouble that follows too violent exercise. The jolt from jumping, the strain from heavy lifting, or over-reaching (as is often the case during coition), drive or crowd the bowels and frequently the mesentery too low down into one, or both groins, and in fact beneath Poupart's ligament itself, and also under the pubic bone. In this portion of the pelvis, not only the bowels and mesentery, but also the *bladder becomes squeezed*, its caliber much reduced; it can not contain its normal quantity of urine, and therefore we have that very troublesome condition known as difficult, painful and too frequent urination; also that most devitalizing condition known as *spermatorrhea*. When men (especially those over fifty years of age) have these symptoms, cystitis and enlarged prostate gland are usually supposed to produce them. But I do not find it so in more than five per cent of the cases that come under my care. With women it is too frequently ascribed to a cold and not much attention paid to it. I find in most cases the uterus prolapsed, anteverted, and the anterior vaginal wall gathered into folds, so that it is only two inches in length, when it should be five.

Tissue of any kind that have from any cause become displaced retards the normal circulation of both blood and nerve force. The result is pain, inflammation, and finally suppuration (or destruction of tissue), on the amount of which life itself depends.

Treatment.—Replace by internal and external manipulation all tissue that is displaced, at least twice a week, and keep it there as far as possible with suitable and properly adjusted mechanical supports, which will be in some cases of the utmost importance, especially so with women. Inflammation should be treated (barring the knife) with the most improved antiseptics and well-chosen medicines. Patience, perseverance and hard manual labor are requisite to produce the most brilliant results.

1610 North Fifteenth Street.

[Written for the MEDICAL BRIEF.]

Calomel the Bane of Sick-Life.

BY ROBERT GRAY, M. D.,
Pichucalco, Chiapas, Mexico.

Dr. Kenner, in December, 1905, BRIEF, struck a key-note of truth that should send a startling thrill of alarm all the way down the line of medical practitioners on the uses and abuses of calomel. Had he said, with a doubly-scored emphasis, that there is no possible application of the hugely-exaggerated and overestimated substance anywhere in or on the anatomy of man that merits other appreciation than *abuse*, he would have hit the nail more forcefully on the head.

I never use any derivative of mercury, and the pure quicksilver under protest, for want of alternative, not even in syphilis of the most virulent type, and can put any physician to shame in any desperate disease or complications, where mercurials are most positively indicated. I have not administered a dose of calomel in thirty-five years. My remedy follows:

℞ Podophyllin.....¼ grain.
Ext. Nuc Vomicæ.....1/16 grain.
Ext. Hyoscyamus.....⅛ grain.
M. Ft. pill or tablet No. 1.

Which I use (dosage from one to eight pills or tablets, according to nature of case, and urgency of emergency) with propitious results that calomel and castor oil would want a forty-foot pole of attaining; aborting malaria, pneumonia, and typhoid fever at the inception, with acetanilide comp., or aconitine, to cut out the fever once, and prevents infection of said disease; taken one or two tablets at night, before exposure, and two grains of quinine in the morning, when there is danger near at hand. Nothing eventful transpires after the heroic dose, nowhere near as drastic as less than calomel make peons working next day, when given to break engorgement, before disease supervenes. I have several big plantation customers who persist in giving their men ten tablets in distressing emergency, contrary to advice. I learned value of big dose by a desperate pneumonia patient taking twenty tablets at one dose, left to take one or two every night, thus breaking up the disease effectively, and expelling a rousing big tape worm.

Calomel is ruinous—ah, murderous—medication in these wet, hot countries.

Instead of mercury in syphilis and other popular indications, I use iodine derivatives—potassium orally, and permanganate externally, this latter in solution, from one-tenth to one one-thousandth, according to object and requirement; one two-hundredth being the strength mostly used when causticity is not necessary, in which indication one-tenth acts admirably, with short severity, both destructive and disinfectant in ample degrees, and anatomically harmless. The incipient ulcers and bubos I abort with injections of pure carbolic acid, before liquid forms to cause dangerous dilution. And my cures are more prompt and satisfactory in every sense than they were with mercury.

My acetanilide comp.:

℞ Acetanilide.....7 parts.
Bicarbonate Soda.....2 parts.
Caffeine Citrate.....1 part.
M. Five grain tablets. In Paris. Sig.: Adult one every half hour or hour, to effect a granule grain one one-hundred and thirty-fourth strychnine arsenate entering between each dose.

Thus employed the precious substance is entirely safe and harmless, and a febrifuge with no competitor, in any current contra-indication, even where aconitine and veratrum viride are useless.

It should be criminal malpractice to use acetanilide alone, the unfortunate responsibility for the howl raised against a substance superlatively meritorious—the best thing existant in grave small-pox fever. I am perfectly satisfied that all that has been said in condemnation was substantially founded in accidents dangerously serious, due to reckless employment without legitimate knowledge of how to secure its propitious physiologic influence innocently. I had my instruction from Paris, before I ever used a grain of acetanilide, and have never had the slightest inconvenience from its daily use, even in infants of less than one month, getting results both impractical to attempt and impossible to attain with quinine.

The subjugation of calomel by podophyllin should become a subject of very serious practical consideration by clinicians caring to secure the highest grade results of medication, in the shortest possible time, followed by speedy recuperation of patients.

A favorite method of administration with me is one tablet on the hour, to effect, when extreme emergency will per-

mit. When the stomach is in revolt, or it is impractical to give one heroic dose at night, at an hour proper to act early in the morning.

In protracted fever I give one or two tablets every night, while needed, after the heroic dose finishes its work.

It is a mistake that podophyllin acts only in the small intestines. It is a fine hepatic and stomachic medicine, in one-eighth to one-sixteenth grain dosage, for protracted periods, nux and hyosc. comp.

Acetanilide should not be administered in the absence of fever, as its province is legitimately febrifuge.

[Written for the MEDICAL BRIEF.]

Treatment of Typhoid Fever.

BY H. H. AUSTIN, M. D.,
Bovina, Miss.

I first give three doses of calomel, soda and Dover's powders, five grains each; then follow with castor oil, if necessary. I then give castor oil every other day.

I give quinine, fifteen grains each day, for two days (on account of malarial climate); ten drops turpentine, three times a day; carbolic acid, one drop, three times a day; digitalis and nux vomica, three times a day.

I use turpentine and hot-water stupes externally for tympanitis.

I control the temperature with hot water in winter, and cold water in summer.

I have been practicing medicine for about four years, and have treated about twenty cases without a single death that I can call to mind.

This is a treatment of my own. I have never heard of a treatment like it. I have a case on hand now, a young man, aged twenty, received a wound from a rifle ball, twenty-two caliber; struck the pubes and ranged round to the right, went in through the descending colon, near the appendix. I expected appendicitis, but to my surprise the wound healed by first intention, without extracting the ball, and in about ten days he developed a severe form of typhoid fever. I saw him yesterday and put him on my usual treatment. As long as my success is so good I am going to continue this treatment.

[Written for the MEDICAL BRIEF.]

Another Forceps Case.

BY S. N. BURTON, M. D.,
Point Cedar, Ark.

Editor MEDICAL BRIEF: I have been a reader of the BRIEF nearly a year, and have already decided it is the BEST journal that comes to my desk.

August 25, four A. M., I was called to attend Mrs. C., in her first confinement. On arriving I found her apparently in the first stage of labor, but was informed upon inquiry that the "waters had broken" two hours before my arrival.

I made an examination and found the soft parts in good condition, the os fully dilated, the membranes ruptured, and an occipito posterior presentation. The brow was under the pubic arch, the vertex against the coccyx, and the head immovable.

Well, I thought of the old doctor who had left five-grain doses of acetanilide for his patient, thinking the capsules were filled with quinine, to keep off a chill. I simply got full of my feelings. No other doctor nearer than six miles, the question with me was, "What to do?" I thought of Cæsarian section, of craniotomy, of lacerated perineums, and much other such stuff. It also seemed to me that some authority had said that such a presentation was dangerous to both mother and child, and in many such cases delivery could not be made without destroying the child.

However, having a pair of Elliot's aseptic forceps in my case, I resolved to take the chances and deliver. I informed the friends of the existing conditions, and got the consent of the woman to apply the forceps.

I found it extremely difficult to adjust the second blade so that the instrument would lock, on account of the immobility of the head, but by the administration of a little chloroform, and perseverance, I succeeded in getting the instrument locked.

Now, after giving more chloroform—the woman using the cone herself—to say that I pulled with all the power I could apply would be putting the statement mildly. But I worked steadily, guarding the

perineum by keeping the handles of the forceps well raised, and in just one hour and forty minutes after I reached the bedside I delivered the woman of a nine-pound boy, as limp as a rag, and apparently dead.

But I soon had him breathing, and in half an hour he was crying lustily.

I delivered the placenta without trouble, and both mother and child are doing well.

There was no laceration of the perineum, although the mother was only seventeen years old, and a primipara.

This being my first case of mal-presentation in nearly four hundred cases, I feel inclined to give it to the BRIEF, trusting that some of its many readers may have some suggestions to give in such cases.

[Written for the MEDICAL BRIEF.]

Living Without Eating—Wisdom of the Ignorant.

BY SILAS HUBBARD, M. D.,
East Aurora, N. Y.

Some intelligent men and women are advocating the possibility and advantages of the *genus homo* living without eating. I will say a man's digestive organs show that, like other mammalia, he was ordained to eat. If he was ordained to live *without* eating then, like the fish of Mammoth Cave, which have no eyes because they have no light and, therefore, need no eyes, man would have no stomach, excepting a little sac to hold a little water. He would need no colon, jejunum or ileum. Man was ordained to eat to live, and not to live to eat.

Man is so dependent on his animal nature that he can not live physically without eating, neither can he improve intellectually, morally and spiritually without eating.

Deut., viii., 3: "Man doth not live by bread alone, but by every *word* that proceedeth out of the mouth of the Lord doth man life," *i. e.*, man is dependent on the word of the *Lord* for spiritual existence, at the same time he is dependent on bread, or its equivalent, for both physical and spiritual existence.

WISDOM OF THE IGNORANT.

More than fifty years ago an ignorant French Canadian drew my attention to his mother-in-law; that she was suffering from constipation, and that the reason was because she was a widow. While she was married she had no constipation. It may be the ignoramus was correct, for there is but a small space between the rectum and the vagina, and thus the friction by the penis may have stimulated the rectum, and thus prevented constipation.

More than fifty years ago a smart, intelligent, wealthy woman, but ignorant of medicine, who had the quick consumption, informed me that Dr. B. had within the year given her chloroform in her confinement, and this was the cause of her consumption. She may have been right, the chloroform may have decreased her vitality so that her blood would not resist tuberculosis; there was at least a coincidence between taking chloroform and the tuberculosis. She died within the year.

Jenner discovered the virtues of vaccination by heeding what an ignorant milkmaid said to him about cow-pox.

I say to all, heed what ignorant people say. It may help us to make new discoveries.

411 East Oakwood Ave.

[Written for the MEDICAL BRIEF.]

The Sulphocarbolates.

BY R. V. PEARCE, M. D.,
Howard, Kan.

We all like to evade the use of mercury whenever it is possible and, naturally, when the sulphocarbolates were exploited, a few years ago, there was a great demand for them. We were assured that they were the only "certain and sure" alimentary canal sweeteners; no fermentation could take place in the bowels if the sulpho's were used; they would shorten the fever period in typhoid fever, etc., etc. But will they? We think not. Our experience is that their actions are so uncertain that they can not be depended upon. We find that in typhoid, or any condition that produces fermentation or decomposition in the intestines, calomel acts better, quicker, with no constipating, and the beneficial results last much longer.

[Written for the MEDICAL BRIEF.]

Medical Ethics vs. Medical Advertising.

BY GEORGE F. C. MORGAN, D. D., M. D.,
San Francisco, Cal.

In an account of a great union labor conference at New York, lately, two Presbyterian ministers demanded admission as constituent members thereof, upon the grounds that they were members of a "closed shop." They had reason for their claims; for no such a "trust monopoly" as "the church" of the ages has ever existed outside of "the church" itself. From the marital ceremony to the cradle, and thence to the grave, "the church" of the period has enforced "closed shop," a "trust."

It is not so far back since the professions of pharmacy, of medicine and surgery, and of law, were exclusively licensed in and by "the church;" and were exclusively operated by members of the same priestly fraternity, lay or clerical. The evidence of this is still seen among us in the symbolic sign for the name of the ancient goddess, "Khora—℞," which sign we modern disciples of Eskulapius still (ignorantly) prefix to our prescriptions. The ancient medicos thus sought to win the favor of the then "thea," or goddess-divinity.

So with the preamble to a will or testament: "In the name of God," amen. "Ament" was the name of one of ancient Egypt's goddesses. The final "t" is a symbol of the female sex of the divinity.

So with the symbol of the college of pharmacy, the snake. Two thousands of years ago the Roman state religion was "snake worship." So in Greece, in all Judea, and in all the Orient. That this was true of all Bible lands and peoples we plainly see in the Bible itself, from Genesis, chapter 3, down to the great fighting snakes of the book of Revelations.

The times have changed. Sensible men take no further stock in talking snakes and forensic asses, and moral lions and bears.

But some of the old leaven of the past remains with us. For instance, the sacred, or priestly notion, as to the office and the function of the doctor. In some lands, the doctor's fee is considered as an *honorarium*, a free-will offering; not an earned compensation for his professional labor. In such lands, the priestly Hippocratic oath is sometimes administered to the graduating students; a symbolic remnant of the times when the state (the priesthood) fed, clothed, and instructed the *cleric-medico*. Of course, he made no charge! Why should he?

Of course it would have been quite out of place for any such priestly healer to have advertised his functions and abilities. They were above comparison, above reproach; they were sacred. They were from, of, and by "the church."

Today each aspirant for healing honors must work for them, and must pay for them. Not only this, he must work to live—after he has been invested with the graduate functions and powers.

Now, why should not a reputable physician, or surgeon, let the public know that he possesses certain qualifications and capabilities, which he has for sale? It does not follow that he become untruthful.

The fact of the matter is, that the pushing and successful (business) doctor does this very thing. But he does it *ethically* (I call it—dishonestly!). He joins societies for this very purpose. I have known some doctors to join the church for this very purpose. The *ethical* doctor cultivates the newspaper man. He takes care to get all possible "local" notices, as to the very serious accident that befel Mr. and Mrs. A. B. C.; that Dr. Slicker was called to attend the sufferer, and reports that the injury is a very grave one, but he hopes, etc., etc. Next day Dr. Slicker reports a little more hopeful condition, etc. The *ethical* doctor is great on medical society rackets, in which he takes care to see that due mention is made of the successful operation he lately performed on Mr. Dyer (the patient failed to recover). Or, he insures the publication of the last paper he presented to the county society, and the part he took in the debate thereon. If he can, he *buys* some stock in a medical college and clinic—another *ethical* form of medical advertising. Or, he floods the land with pamphlets, advertising a certain kind of operation, or line of treatment, he has followed.

Now, in all common honesty, wherein does this essentially differ from some sen-

sible business announcement which any medical man may honestly make? Drs. Flint & Steel advertise their hospital, and do it *ethically*. But are they not thus advertising Drs. Flint & Steel? Of course they are! This is their main aim and purpose! What else? Nothing!

The doctor's calling is (or should be) his business. To-day the average successful man will be found to be one of the most thoroughly furnished in his line—an educated man. The "professional" man among us possesses no exclusive rights, no prescriptive privileges which distinguish him or his calling from that of other intelligent business men. It is the *matter* of an "ad," the *substance* of a newspaper article, that makes it *ethical* or *unethical*, *non-quackish* or *quackish*. Truth, sincerity, reasonableness, are the real qualifiers. The "quacks" are *inside*, as well as outside the societies. Let the doctor pay for his "ad." like an honest man, and not resort to these subterfuges, which should bring a blush to the brow of any self-respecting man.

[Written for the MEDICAL BRIEF.]

The Dangers of the Hyoscine Treatment for Morphinism.

BY B. B. RALPH, M. D.,
Kansas City, Mo.

The fact that hyoscine can make a "straight cut-off" treatment for the morphine habit, not only endurable, but without suffering, has been demonstrated, and in the wake of this has come protests and assertions as to danger and bad effects. In taking up this form of treatment about six years ago I did it with a good deal of fear and watched my cases very closely, indeed. My first case was a strong, obstinate young doctor, who had given himself completely over to his dissipation until when he came to me he said he was taking as high as sixty grains of morphine, ninety grains of cocaine, and a quart of whisky a day. It took a combination containing one-thirtieth of a grain of hyoscine, given every half hour for eight doses, to keep him unconscious of his suffering. After that the same amount every three hours kept him nicely. The delirium was quiet and the patient seemed happy. I kept him under treatment three days to make sure, and with the appropriate after-treatment, the patient had an uneventful and complete cure. This encouraged me, and the next case I accepted would certainly not be accepted if it came to me to-day. On examination, I found an aneurysm of the heart that had worn away two ribs and was beating out on top of his chest, as big as your fist; a condition that promised a fatal result in less than a year. Along with this he had a parchment-like face, and a bronchitis, with excessive secretion, that made his breathing have a most ghastly rattle. I wanted to refuse his case, and he said he would find some one who would treat him, as he would not die with the sin of the morphine habit on his soul. His persistence induced me to take his case. The morphine was stopped at once, and it took most of my time, and all of my resources for the next week to keep him alive, but the desire, or necessity, for the drug was gone, and he was happy, but the pains from the heart began again and kept getting worse until his family prevailed upon him to again take the morphine. There was no harm done by the treatment in this case, and it taught me that, with proper handling, there was no danger. I have used this treatment, modified and improved, continuously since then, and I have never had a failure to cure, or a death from the treatment. I have never seen any bad effects on the mind, or body. The treatment, properly given, so thoroughly clears the system of all poisons that, under proper physiological treatment, the patient rapidly regains a normal condition. I know of fatal results from attempted treatments of the morphine habit with hyoscine by inexperienced hands, but I know that when properly handled the treatment is without danger. Of course, your patient is usually a wreck when he comes to you, and a sick man during the cure. He needs close, sensible attention from both physician and nurse, and should have the benefits of electricity, massage, vapor and tub baths. No patient should be allowed to leave until he is sleeping, eating and feeling well, and is able to get along without any medicine of any kind whatever.

218 Rialto Building.

[Written for the MEDICAL BRIEF.]

The Therapy of Cholelithiasis.

BY WALTHER NIC. CLEMM, M. D.,
Darmstadt.

The administration of soap, which I advocate for the cure of cholelithiasis, is in complete harmony with the scientific dietary recognized as the only correct one at the present day. While formerly the first condition was uniform, non-irritating, bland diet, supported by the total exclusion of fat, the treatment of today consists in prescribing recrementitious, dejectory food, assisted by fat to induce saponification, and action upon the biliary flux.

To J. Kraus, in Carlsbad, and Baron Cefele, in Neuenahr, belongs the merit of having been the first to do away with the famine diet. Others soon followed, notably Naunyn, the well-known authority.

My advice, however, is to make use only of milk fats (cream and butter) and raw meat fats (raw smoked bacon), and not of meat fats that have coagulated in the boiling process.

I have adopted the "Drinking and Lying Down Cure" prescribed by Naunyn, but do not allow it to be used for more than four weeks, under a gradual decrease of time from three to one hour, alternately, in the forenoon and afternoon. This, as a matter of course, results in gradual alterations of the following plan:

At five A. M., in bed, on an empty stomach, take half a liter of unskimmed milk, mixed with cream, if necessary. Sleep for one hour to an hour and a half. Take oleate of soda, followed by half a liter of physiologic common salt solution, by the mouthful.

Rise at seven A. M. and, while dressing, take deep breathing exercise, say fifty to sixty respirations. I make patients inhale as deeply as possible, and let them count during expiration, so as to prolong the process.

Take half an hour's walk in the open air; defecation on returning.

Breakfast at eight o'clock, which should consist of porridge of oatmeal, buckwheat or rye flour, with egg on toast, or well-baked gluten bread with butter. Fat, raw ham or bacon, or meat jelly, egg dishes, or meat fried in butter, mutton cutlets well defatted, roast loin, ragout without spicy ingredients, etc.

Rest a quarter of an hour, take a walk of same duration, have gymnastic exercise, follow up by bathing or rubbing, rest for half an hour.

After the inflammation has passed away and there is no danger of shaking of the body, thanks to the wearing of a Rose belt, or a Ciemm enterophor, it is advisable to substitute for these exercises a one hour's ride on horseback, when possible (Kuhn), after which the body should be rubbed and rested.

During the time that the "Drinking and Lying-Down Cure" is practiced, the hour for which is ten A. M., no second breakfast is given; later this may be allowed at 10:30, and should consist of meat broth, a soft egg with buttered bread, or of roast meat, ham and fresh cheese (Kuhn).

An excellent means to induce appetite, when necessary, is to beat up an egg with sugar into good red wine, or Greek retsinat wine, which may be taken with an "Albert," or similar pastry. If strawberries are in season, they form an excellent breakfast, served cool with cream, a dish which is a general favorite in North America.

For the lying-down cure the bed is to be arranged as follows:

Fold a light woolen carpet several times over, observing a final width of about forty centimeters, and place it across the bed. Put a thermophor under the spinal cord and another in the hepatic region toward the pylorus, reaching over to the colon.

During the first hour drink a bottle of Carlsbad water, as hot as it can be borne, in small gulps; this will materially assist in producing a violent perspiration.

Instead of this a hot bath of long duration may be taken, according to Swift-Walker and Portal; the latter letting patients go to sleep in it. The effect of the bath upon the skin is increased by adding one-half kilo washing soap, which has been dissolved in boiling water (Lewin).

Half an hour before rising take again oleate of soda; follow up with one-fourth to one-half liter of milk or cream, appetite permitting. At one o'clock take dinner. This should consist of meat broth, soup, fish, with oil-butter and potatoes, or a

light *entrée* (fowl, pastry, pot-roast of venison, fowl or mixed meats, roast beef with vegetables or salad, sliced potatoes fried in butter, stewed fruit, a light dessert, buttered bread (toast, Graham bread or Sœkeland's pumpernickel), with small slices of Swiss or Dutch cheese, fruit or fruit ice. The latter sometimes renders great service in the middle of a colicky attack, as it frequently stops pain upon the instant. A small cup of Mocha after meals often influences the bowels favorably.

As a dinner drink I recommend, to promote the bowel movement, light white wine or fruit wine, such as Markgræfler, or, better still, such of the Moselle wines as have a light bush in the flowering season. I do not think well of red wine as advocated by Kraus, Carlsbad, Kuhn, and Cassel, on account of its action upon the bowels.

Take half an hour's siesta, for which I recommend the reclining position on the left side of the body, on the assumption that this promotes the biliary flux, and the action of the colon.

Inside the resting period, take a walk, light, sportive exercise, do some garden work, etc., so as to be in the open air, but not for more than an hour.

At three P. M. the drinking and lying-down cure should be practiced again in the same way as in the morning.

An afternoon meal should not be given during the period that the drinking and lying-down treatment is in force, but later it should be given at four o'clock, and consist of milk, buttered bread and egg, or inspissated milk (dickmilch).

The time for resting having expired, take deep breathing and gymnastic exercises.

Supper at seven o'clock: A little soup, a dish of eggs or meat with green salad and buttered bread, a glass of lager beer, with dry malt extract with diastase; or tea, according to habits. Half an hour later: Berry fruit (cranberries in the spring, grapes in the later parts of the year; strawberries and cream).

At 8:30 take again oleate of soda and half an hour later, before going to bed, half a liter cream with milk, or buttered toast with milk.

After this a tablespoonful of green soap is rubbed into the body in the region of the gall bladder, observing that the skin will absorb as much of it as possible. The rubbing hand is moistened with spirits. Now place a cloth, saturated with spirits, over the spot for a few minutes, and after removal the soap will have entirely disappeared, and the skin have a fresh, red appearance. Have the cloth well pressed out, and any traces of soap which may still adhere to the skin, removed with a wadding pledget and lukewarm water, put the cloth around patient's body, cover liberally with Billroth's or Mosetig's battiste, follow with a layer of sized wadding, and finally let a flannel bandage hold everything in position for the rest of the night.

The importance of the green soap—apart from its possible effect upon the gall system after absorption—for tuberculous inflammations of all kinds has been described by Kappesser, and to a large extent confirmed by Hoffa, Czerny, Senator, and others.

The blessing of the Salzwedel alcohol dressings, introduced into surgery by Bier, is so generally recognized that their application in these cases immediately forced itself upon me. A well-applied Salzwedel alcoholic dressing is an excellent anodyne, acting favorably upon suppuration during the first stages, and limiting or suppressing the same in its later stages.

It is self-evident that attacks of high fever, symptoms of dangerous inflammatory phenomena, etc., demand abstention from every movement, and needs condemn the patient to absolute rest in bed, except for any operative treatment which may become necessary according to complications. In cases of this kind deep breathing exercises, then careful massage and gymnastic exercises, form the transitory stage to the commencement of the above cure.

Having described the curative treatment, I will deal with the remedial agent which is to conquer the disease.

Already, one hundred years ago, Coe, an Englishman, tried to administer soap, but his attempt was, of course, doomed to failure on account of the caustic action of the *sapo viridis*. Baron Cefele, too, prescribed soap pills, as I learned from a

communication he has addressed to me. Also Ferdinand Blum recommended oleoacetic natrium (œlsaures natron, C_{18} H_{33} O_2Na) to act upon the gall bladder. But Naunyn and others have already pointed out the problematical value of this remedy, so that great success was not to be expected from it.

The anti-inflammatory action of soap (Kappesser) and its property to solve the biliary fat and prevent the latter from dropping out of the bile—a property which has been demonstrated in Naunyn's laboratory, places this agent at once in the foreground as an excellent remedy. For as such oleate of soda (Soda oleinicum) has proved itself in several hundred cases in which I have carefully and, step by step, tested and applied the same.

The oleate of soda may be dispensed in the form of chocolate-covered pills, to disguise the abominable taste of the remedy. In this way, however, only very small quantities can be administered; one hundred small or forty large pills would be necessary to ingest ten grains of soap, which is about the quantity required in the initial stages, as I shall presently show. For this reason these pills are only of value for prophylactic and after-cure purpcses, and not for the cure itself.

By the mixture which I have prescribed (10-15 oleate of soda, with thirty drops essent. ananas, 5.0 tincture valerian, 150-200 aq. menth. pip.) it is possible to administer somewhat larger and, above all, more reliable doses, seeing that, after all, some of the pills may be evacuated without dissolving. On account of its soap-like foaming, however, and its highly objectionable taste, which for sensitive palates approaches the horrors of orcus, it is impossible to administer even in this way the necessary quantity of soap in one dose. Oleate of soda may, besides, in pill form, as mentioned, be administered in wafers, followed up with warm water.

In order to produce a rapid-healing effect, the best, and in most cases feasible plan, is to inject a watery oleate of soda solution into the patient's stomach through the stomach tube. In institutions, sanatoria and clinics, this method of administration would mean a saving of two months of the time required for a cure. In this manner very considerable quantities of soap may be ingested without involving the taste at all.

Before drawing out the tube, it is rinsed with a little peppermint water, and after its removal patient may take a benguedragee—a lump of sugar with two drops of peppermint oil—in order to counteract any possible soapy taste which may have been imparted to the mouth when pulling out the tube, and thus avoid nausea.

In this way ten to twenty grains oleate of soda are administered three times daily at the stipulated hours. As the medicine shows its effect, the quantity is lessened, according to the physician's judgment, until a cure is effected.

When an after-cure is necessary oleate of soda pills will maintain a soap supply in small quantities for a few months longer.

By properly-applied plaster bandages, such as are used by Rose, Rosewater, Schmitz, Weissmann, and the author, in the most divers kinds of pelvic disorders, it is quite possible to prevent a return of the evil, and in the same way its origination may be prevented by applying these bandages in proper time, as in pregnancy cases, etc.

Patients treated after this method will soon lose that painful inflammation which renders a gall-stone attack so insupportable, and at the same time critical.

If the treatment is continued long enough and if, later on, the directions as to mode of living are observed, the trouble will disappear entirely, unless it is complicated with other pathological conditions.

I, therefore, urge all colleagues again and again to test and adopt this method of treatment, to the benefit of numberless sufferers, and success can not fail to result.

[Written for the MEDICAL BRIEF.]

An Antacid.

BY J. A. BURNETT, M. D.,
Cecil, Ark.

The following is a valuable remedy to render the alimentary canal antacid, and to act upon the liver and bowels:

℞ Specific Leptandra.....1½ drachms.
Specific Myrica.....1 drachm.
Sodium Bicarbonate.....1 drachm.
Aquæ....q. s. ad.....4 ounces.
M. Sig.: Dose one teaspoonful every two hours.

[Written for the MEDICAL BRIEF.]

Prognosis in Accident.

BY C. E. BOYNTON, M. D.,
Millville, Cal.

In a large per cent, possibly in as many as thirty per cent, of accidents the mind of any physician is at sea in regard to a definite diagnosis. This week the stage at a neighboring town was fired upon, a man wounded in the abdomen, the bullet passing in near the navel and out near the groin. In eighteen hours he was dead. Yet prognosis had been very favorable and his death was a surprise. *Post-mortem* is not yet reported. The cases of Presidents McKinley and Garfield were two concerning which prognosis widely erred.

A boy was brought to my office, age eighteen; had been unloading telegraph poles and several had rolled over him; extricated from the pile; all expected to find him fatally injured, but he was rational and made little complaint. No wounds were in sight, and although the boy said his "belly" hurt, the ordinary observer was not impressed that the accident had been very serious, as the boy conversed quite naturally with his friends.

After about fifteen hours from the time of the accident it was evident to his physician that the internal injury had been very serious. His respiration became rapid, and weak pulse with faintness supervened. Before an operation was decided upon the boy passed away, some thirty hours after the accident. In this case, as in many, the patient had nothing. The railroad company might be held responsible and the task was too much for one physician to attempt alone.

Once, while physician at the mines, I was called to a man that had just been jammed between a carload of coal and the end of the tunnel. He conversed quite rationally and smiled hopefully. Upon examination I found no wounds externally, but the sacrum had been smashed and its fragments were afloat.

To the surprise of his friends I quietly informed those able to receive such news that he would be dead in two hours. Sure enough, he lived a little less than that time.

When a few friends very near to the injured one hang around, trying to catch every word the doctor says, and are likely to complicate affairs worse by hysterics or fainting, one hates to have to tell the whole truth in a case of much gravity. Any hopeful word the doctor speaks to cheer a wife or mother is reported next morning as if the doctor had high hopes. These positions are ones when a doctor should take no chances of being judged superficially. I have set down the following rules as generally safe to go by:

First. Wounds of abdomen that may be as deep or deeper than the peritoneum should be operated upon, if possible, and their prognosis should be grave, and distinctly so.

Second. When the human body has been jammed, or struck with a heavy force, below the ribs and above the pubis, prognosis should be grave for the first forty-eight hours, if there is pain, dyspnea, trachycardia, shock, or great prostration.

Third. When a man falls and after recovering consciousness manifests stupor, or any of the above symptoms, even if there are no fractures discoverable, our prognosis had best be grave, or deferred.

Fourth. If there is a fracture or bruise that enables us to know, in the case of an injury, the mechanics of its happening, we can, in some cases, see our way pretty safely to a hopeful prognosis.

Fifth. In the case of a sensitive woman or a person past middle life and rather pessimistic, we should not burden them or their friends with a gloomy prognosis longer than we can help, for it of itself is sometimes a dangerous complication.

A case to the point is this: A man, aged fifty-eight; thrown from buggy; picked up unconscious; no marks on body. Prognosis doubtful for three days. The patient was frantic and, as far as the writer could see, normal, except muscles of left side were sore, and a rib or two may have been broken, without displacement. Light bandaging of left side and hopeful prognosis transformed the condition of this man as if by magic.

When death from accident is likely to come soon and there are no manifest traumatisms, like wounds of the surface or fractures, we may relieve pain or give a

heart stimulant. Hot applications for shock are then in order. All this we may do, knowing our patient will not recover. To fold one's hands and retire from the case without directing these things done is not wise. Probably there is no physician who has not seen those of whom he had lost hope recover.

[Written for the MEDICAL BRIEF.]

Where Will It End?

BY D. C. MARTIN, M. D.,
Stewartstown, Pa.

What a gloriously free nation,
Ruled by careful legislation,
Free? With compulsory vaccination,
Free? With compulsory education,
Free? Can we say with adoration,
For the present legislation?

Now a certificate of birth
Is required of all on earth;
Baby's size, and mother's girth,
And what the whole dogged family's worth.
All these things cause little mirth
To the poor doctor by the hearth.

Now for death a certificate,
With disease of childhood, those of late;
Where he drank and what he ate,
Lead a crooked life, or good and straight,
Came home early or came home late—
All this is required by the legislate.

Now a certificate of illness, that is all,
From busy doctor on his call—
If it be chicken-pox or pox that's small—
And send it to the Capital.
Soon, when we hear a baby bawl;
We'll have to certify, that is all.

Soon our marriage certification
Will only be given upon probation,
Until we give a demonstration
To our careful legislation
That we'll do successful propagation
Of the species of our nation.

[Written for the MEDICAL BRIEF.]

Pneumonia.

BY H. A. COSSITT, M. D.,
Morris Plains, N. J.

I have found that in addition to the general treatment of pneumonia, small and frequent inhalations of chloroform, in the early stage, is very beneficial; the pain is relieved, the patient becomes quiet, and the breathing easier and deeper.

In the cases so treated the crisis usually occurred on or before the fifth day of the disease.

[Written for the MEDICAL BRIEF.]

Drug Addiction.

BY W. S. ROBINSON, M. D.,
Nashville, Ark.

The cure of drug addiction can not reasonably be expected by any plan of treatment which entails protracted suffering, like the reduction method. If you will free the patient from all toxic matter, disengorge the portal system, narcotics can be withdrawn without shock, collapse or diarrhea. My plan in something near two hundred cases of drug addiction that I have treated, is to free the system from all toxic matter, neutralize the morphine or other opiates in the blood, and the cure has been comparatively painless.

I do not consider any drug patient cured so long as he takes a "tonic," or drugs of any kind. He must be independent, physically and mentally, of all craving or desire for drugs or I would not give a flip for the cure.

With careful attention and the discreet administration of hyoscine, any case of the "drug habit" can be cured permanently, and without danger or pain. "Individualize your patients." Treat each case symptomatically, as your judgment would dictate. Hot baths, proper massage, and well-regulated diet will bring your patient around, cured, every time.

[Written for the MEDICAL BRIEF.]

To Lower the Death Rate in Pneumonia.

BY BETHEL NOWLIN, M. D.,
Jonah, Texas.

Can we do it? Yes; we think so. By seeing patient at once; put him to bed in good, warm, well-ventilated room. Open the bowels with hyd. chlor. mite, three grains, and follow with epsom salts. Apply a plaster of kaolin covered with absorbent cotton to entire chest. Support the heart with strychnia sulph., digitalis, whisky. Food of the lightest, most easily-digested diet. When mortality rate goes above ten per cent take your bearings and see what is wrong.

[Written for the MEDICAL BRIEF.]

A Question of Right or of Wrong.

BY CHARLES C. PARTRIDGE, M. D.,

Hyde Park, Mass.

Two doctors were talking together one night,
While the lamp in their study was still shining bright,
Of the work of disease and its telling effects
Upon certain men, and of those it rejects,
And whether it were right to go, wanting pay,
To the door of the sick—if needy be they.
Should they visit a sick one, although she were poor,
Who lived just beyond, a stone's throw, not more?
Who was lying sore low with Death at her door.
"I tell you," says one to the other named John,
"It is not a question of right or of wrong,
But it is rather one's duty to jump and run quick
To the door of the poor, to the door of the sick."
Without further talk, as to matter of fees,
John took his coat, his hat and his keys,
Together they went, on the good errand bent,
To the door of the pauper—by disease nearly spent;
Together they went by the light of the moon,
To the door of the sick—the bed-ridden one,
But little they thought, as they knocked at the door,
That the Angel of Death left ten minutes before.
There, lying wrapped up in a sheet on the bed,
The rigid form lay—for the pauper was dead.
"Should I ever again question," said I, turning to John,
"Whether it be a question of right or wrong,
To go at the call of a poor, sick one,
And to do what we can—although it be small—
To make death more easy—for that may be all?"
John turned to me, with his face whitely graven,
And uttered these words, still looking amazen:
"If ever I hope to reach that fair Haven
That God has prepared for all well-behaven,
Where now this one's soul is just singing with those,
But not of her poverty, her wants and her woes,
I must never again, I feel it to say,
Sit thinking and talking, 'till near break of day,
As to whether it be right to go wanting pay
To the door of the sick, if wanting be they,
For all are but mortals, all fashioned of clay."

MORAL.

Now, if in this case, we had started right out,
The light might be burning, which just was put out,
And Death's grim angel, after knocking in vain,
Would have mounted his steed and given him rein.

Questions for Examination Before the Kansas State Board of Medical Registration and Examination, October 10, 1905.

ANATOMY AND HISTOLOGY.

1. Name the facial muscles and give their origin and insertion.
2. Name the tissues entering into the formation of the hip joint.
3. Describe the os innominatum and name the muscles attached to same.
4. Name and locate the different portions of the digestive tract.
5. Trace a blood corpuscle from the heart to great toe and return to heart.
6. Describe the skin, giving its layers and histology.
7. Give the histology of an artery and vein.
8. Name and describe the various triangles of the body.
9. Name and describe the structures of the heel and ankle joint.
10. Give the histology of the liver.

CHEMISTRY AND TOXICOLOGY.

1. (*a*) Which system of weights and measures is employed in chemistry? (*b*) Give the subdivisions of a meter.
2. What is magnetic induction?
3. What are physical, what chemical, changes?
4. What is analysis and what synthesis? How can they be applied to water?
5. What is the hydrogen compound of bromine?
6. What is the treatment for arsenical poisoning?
7. How does CO_2 act as a poison?
8. How does the pancreatic ferment act on the fats?
9. Trommer's test—how is it performed?
10. What is the clinical significance of the presence of free uric acid in the urine?

OBSTETRICS AND GYNECOLOGY.

1. Diagnose and treat a case of face presentation.
2. What are the symptoms of placenta previa? Give treatment.
3. Give treatment of *post-partum* hemorrhage.
4. How many kinds of version are there? Name them. And when would you resort to turning?
5. Write two pages on abortion and premature labor.
6. How would you treat an apparent death of a new-born child?
7. Give some of the deformities of the pelvis.
8. What are some of the causes of protracted labor?
9. How would you treat a prolapse of the umbilical cord?
10. When would you use an anesthetic in labor?

PATHOLOGY.

1. Give structural changes that take place in acute and chronic appendicitis.
2. Describe the structural changes in tissue that take place in two kinds of naso-pharyngeal catarrh.
3. Give the pathological lesions that take place in acute and chronic endocarditis.
4. What structural changes take place in acute and chronic pleuritis?
5. Give the pathological anatomy of angina pectoris.
6. Give the structural changes of prostatic hypertrophy.
7. Give the pathological changes in necrosis and caries of the bone.
8. Define the structural changes characteristic of acute and chronic cystitis.
9. Give the pathological changes that take place in the different types of cirrhosis of the liver.
10. Give the structural changes that take place in acute peritonitis.

BACTERIOLOGY.

1. How do cells multiply, and what conditions are necessary for their growth?
2. Describe the Klebs-Löffler bacillus, and what disease do they produce?
3. What are leucocytes, and what occurs when they come in contact with pathogenic bacteria?
4. What microbes are found in acute abscesses?
5. Describe the staphylococcis pyogenus aurus, and where are they most frequently found?
6. Describe the bacillus coli communis, and where and in what diseases is it found? Give the points of difference between it and typhoid bacillus.
7. Name and describe the bacillus of erysipelas.
8. What is immunity, and describe natural and acquired immunity?
9. What are germicides, antiseptics, and disinfectants?
10. Give general method of staining bacteria. Name five culture media, and detailed method of preparation of one.

PHYSIOLOGY.

1. Define the science of physiology.
2. Describe the mechanism and circulation of the blood through the heart, and explain the diastolic and systolic murmurs.
3. Describe the portal circulation.
4. What is meant by the vaso-motor system?
5. Describe the various kinds of blood corpuscles and give their origin and function.
6. Give the functions of the lungs, describing the various processes.
7. Describe the different kinds of muscular tissue and mode of action of each.
8. What membrane lines the mastoid cells?
9. Describe the process of menstruation.
10. How is animal heat produced, preserved and dissipated?

SURGERY.

1. When the femur is dislocated upon the dorsum ilii, how would you proceed to reduce it?
2. Name three symptoms always found in dislocations of the "head of the bone into the axilla."
3. What is Pott's fracture? Give diagnosis, prognosis, and treatment.
4. Name some of the characteristics of malignant neoplasm.
5. What is suppuration?
6. Give treatment for congenital talipes, when discovered early.
7. Define paraphimosis. Give surgical treatment.
8. What are the three general anesthetics in common use? Contra-indications for each?
9. Differentiate an ovarian cyst from pregnancy five to seven months.
10. What preparatory and postoperative treatment should be instituted in case of laparotomy?

OPHTHALMOLOGY, OTOLOGY, RHINOLOGY, AND MEDICAL JURISPRUDENCE.

1. Name some causes of ozena.
2. Discuss the pathological characteristics of naso-pharyngeal adenoids.
3. Define strabismus. What causes it?
4. Describe the crystalline lens and give its relations.
5. The vast majority of all the diseases of the ear have their origin in inflammations of what particular membrane?
6. Prescribe for chronic case of otitis media purulenta.
7. Nasal polypi—give diagnosis and surgical treatment.
8. What do you understand by medical jurisprudence?
9. What constitutes a dying statement, and what conditions necessary to make it admissible as evidence in a court of justice?
10. Give diagnostic symptoms between diphtheria and follicular tonsillitis.

REGULAR—THEORY AND PRACTICE.

1. Give treatment of acute gastritis.
2. Give symptoms and treatment of acute esophagitis.
3. Give diagnosis and treatment of diabetes mellitus.
4. Diagnose and treat constitutional syphilis.
5. Give treatment for acute articular rheumatism.
6. Diagnose and treat a case of dengue.
7. Give diagnosis and treatment of a case of mumps.
8. Give etiology and treatment of erysipelas.

9. Rubeola morbilli—treatment and diagnosis.
10. Etiology and treatment of scarlet fever.

REGULAR—MATERIA MEDICA.

1. What are the mydriatic anodynes? What medicines are included under this head?
2. What is belladonna?
3. What is the difference between an infusion and decoction?
4. What are excito-motors?
5. What active principles does nux vomica contain and how may the presence of these alkaloids be detected?
6. What potassium salts are used as cathartics?
7. What is carbolic acid, and what are its physiological actions?
8. What are the medicinal uses of phosphorus?
9. What are the physiological actions of opium?
10. Name the preparations of antimony and give their medicinal uses.

HOMEOPATHIC—THEORY AND PRACTICE.

1. Give treatment of pleurisy. Name remedies you would use before and after effusion.
2. Give treatment of puerperal fever. Name remedies, with indications for each.
3. Give complications most frequently met with in scarlet fever.
4. Name remedies most prominently useful in cholera morbus.
5. Give differential diagnosis in diphtheria and follicular tonsillitis.
6. Give diagnosis and treatment of acute catarrhal inflammation of the middle ear.
7. Give treatment of a case of acute uremia. Give cause and symptoms.
8. Give causes and pathology of acute parenchymatous nephritis.
9. Give differential diagnosis between catarrhal jaundice and biliary calculi.
10. Give causes and treatment of gonorrheal ophthalmia.

HOMEOPATHIC—MATERIA MEDICA.

1. Describe the general toxic effect of belladonna on the system.
2. Give an outline of a proving of rhus tox.
3. Mention one of the earliest and most prominent symptoms of strychnine poisoning.
4. Name five prominent symptoms calling for lycopodium.
5. Describe the skin eruptions of sulfur.
6. Differentiate between the eczema of rhus tox. and graphites.
7. Give an outline of a nux vomica proving and differentiate between it and pulsatilla in dyspepsia.
8. Name five of the most frequently indicated remedies in typhoid fever.
9. Name three remedies for each of the different stages of pneumonia.
10. What is your treatment for a typical case of la grippe?

ECLECTIC—THEORY AND PRACTICE.

1. Give the cause of and treat a case of jaundice.
2. What are the indications for eryngium, gelsemium, and dioscorea?
3. Name four classes into which remedies are divided, according to their action.
4. Name five remedies that influence the blood, and give the pathological condition calling for each.
5. Diagnose and treat a case of dysentery.
6. Diagnose and treat a case of enterocolitis.
7. What are meant by typhoid conditions?
8. Name five remedies that counteract sepsis.
9. Diagnose and treat a case of suppression of urine.
10. Diagnose and treat a case of typhoid fever.

ECLECTIC—MATERIA MEDICA.

1. Define infusion, decoction, emulsion, powdered extract, solid extract, fluid extract, sinapism, fomentation, diuretics, diaphoretics, and name one of each.
2. Give specific indications for collinsonia.
3. Give specific indications for the use of acetate of potassium.
4. Give the pathological condition in which you would use quinine.
5. Give botanical name of fringe tree, and give the specific indications for its use.
6. Write a prescription for acute cystitis.
7. Give specific indications for pulsatilla, nux vomica, viburnum, iris, and cactus gran.
8. Give specific indications for the use of baptisia, chlorate potassium, muriatic acid, sulfurous acid.
9. Name the different products obtained from Peruvian bark, Chinese poppy, and deadly nightshade.
10. Give treatment and antidote for poisoning from carbolic acid, concentrated lye, strychnine, corrosive sublimate, Rough on Rats, fly-paper, opium and its salts.

[Written for the MEDICAL BRIEF.]

Swallowed a Horse Nail.

BYRDSTOWN, TENN., January 14, 1906.

Editor Medical Brief.

I have just been called to see a child, aged ten years, who had swallowed a No. 6 horse nail. Will you please tell me what course I should have pursued and what I may expect as the final result? I would be pleased to receive some advice on this case from the readers of the BRIEF.

Enclosed find one dollar for the BRIEF for 1906. L. F. ZACHRY, M. D.

Book Notices.

TUBERCULOSIS. Recast from Lectures Delivered at Rush Medical College, in affiliation with the University of Chicago. By Norman Bridge, A. M., M. D., Emeritus Professor of Medicine in Rush Medical College; Member of the Association of American Physicians. Illustrated. Philadelphia, New York, London: W. B. Saunders & Company. Price, $1.50.

In this excellent work the practical side of the care and management of those sick with the various non-surgical forms of tuberculosis has been concisely stated. Full consideration has been given to prophylaxis, an all-important phase of the subject that has heretofore been much neglected. There are also chapters upon the Bacillus of Tuberculosis; on the Pathology, Etiology, Symptoms, Physical Signs, Diagnosis, and Prognosis of the disease, each treated in the judicious and thorough manner to be expected in a work by such a well-known authority as Dr. Bridge. Treatment is accorded unusual space, there being chapters upon Hygienic Treatment, Management of the Diseased Lung, Climatic Treatment, Medicinal and Local Treatments, Special Treatments, besides a chapter devoted to the subject of Sanatoria. Altogether the work is a most valuable one, and we heartily recommend it to practitioners as the latest and best work of its pretensions it has been our good fortune to review.

KOPLIK ON DISEASES OF CHILDREN. A treatise on the Diseases of Infancy and Childhood. For Students and Physicians. By Henry Koplik, M. D., Pediatrist to Mt. Sinai Hospital, ex-President American Pediatric Society, etc., New York. New (Second) Edition. Revised and Enlarged in Text and Illustrations. Octavo, eight hundred and sixty-eight pages, one hundred and eighty-four engravings and thirty-three plates. Lea Brothers & Company, Publishers, Philadelphia and New York: Cloth, $5.00; leather, $6.00.

In its general plan the book represents an endeavor to reflect the best pediatric knowledge of the world. The author has infused into this edition a somewhat larger proportion of his own experience, derived from the exclusive study of this subject for the past twenty years, and extending over an ambulatory and hospital practice covering 250,000 children. This personal element will be most apparent in the chapter on Infant Feeding, a subject of paramount importance often of great difficulty, and one in which recent advances have been striking. The author has given the methods employed by him in hospital and private practice. The clinical character of the work has been preserved throughout, as the author has adhered to his purpose of furnishing a practical guide and text-book, serviceable alike for students and physicians. A number of new and characteristic engravings from original drawings have been added to the series in the first edition, and the text shows an increase of nearly two hundred pages. In its first edition Dr. Koplik's work met with a warm welcome from Practitioners, Teachers and Students and a demand which has quickly exhausted it. The new edition will prove still more satisfactory.

THE PRACTICE OF MEDICINE. A text-book for Practitioners and Students, with special reference to Diagnosis and Treatment. By James Tyson, M. D., Professor of Medicine in the University of Pennsylvania and Physician to the Hospital of the University; Physician to the Pennsylvania Hospital; Fellow of the College of Physicians of Philadelphia; Member of the Association of American Physicians, etc. Fourth Edition, Revised and Enlarged, with two hundred and forty illustrations, including colored plates. Philadelphia: P. Blakiston's Son & Company. Price, $5.50.

Tyson's Practice has most assuredly met the demands of the profession, and the author has been encouraged to thoroughly revise it and add over sixty pages of new matter, thus bringing it up to date. The most important changes will be found in the section on Animal Parasites, which has been revised by the author's colleague, Dr. Allen J. Smith, a recognized authority on this important and practical subject. In addition to the revision, this section has been further improved by the introduction of numerous illustrations, the aim being to make the text plainer, the subject more interesting, and the best in any work on this subject. We hope that the recognition of this work as a leader on practice will continue.

PRACTICAL POINTS IN NURSING. For Nurses in Private Practice. With an Appendix containing Rules for Feeding the Sick; Recipes for Invalid Food and Beverages; Weights and Measures; Dose List, and a full Glossary of Medical Terms and Nursing Treatment. By Emily A. M. Stoney, late Superintendent of the Training School for Nurses, Carney Hospital, South Boston, Mass. *Third Edition, Thoroughly Revised.* Handsome 12 mo. of four hundred and fifty-eight pages, fully illustrated, including eight colored and half-tone plates. Philadelphia, New York, London: W. B. Saunders & Company. Price, cloth, $1.75.

The continued and increasing popularity of this little volume has placed the publishers under the obligation of keeping it abreast of the times, of making it reflect the latest advances in the progressive profession of nursing. The revision has been extensive, every page showing evidences of careful scrutiny. Considerable portions of the work have been either amended, modified, or amplified in accordance with the progressive spirit of medicine and its indispensable handmaid, nursing. The sections treating of certain diseases, especially the infectious diseases, as well as the treatment of the common poisonings, have been in large part recast and rewritten. By the extensive revision the usefulness of the book has been greatly extended and its trustworthiness enhanced. There is no doubt that the work, in its third revised form, will maintain the popularity justly won by the earlier edition.

MATERIA MEDICA, PHARMACY, AND THERAPEUTICS. Revised in accordance with the new United States Pharmacopœia. Including the Physiological Action of Drugs, Special Therapeutics of Disease, Official and Practical Pharmacy, Minute Directions for Prescription Writing, Incompatibility, etc. By Samuel O. L. Potter, M. A., M. D., M. R. C. P. (Lond.), formerly Professor of the Practice of Medicine in Cooper Medical College, San Francisco, etc. Tenth Edition. Philadelphia: P. Blakiston's Son & Co. Price, cloth, $5.00; leather, $6.00. Thumb Index in each copy.

Those who have used this book will agree that the author has produced a work containing more correct information in a practical, concise form, than any other publication of the kind. The plan is original, and its contents have been combined and arranged in such a way that it offers a compact statement of the subjects in hand. This edition has been very thoroughly revised. One hundred and thirteen new articles and paragraphs have been added, and nearly four hundred articles have been rewritten.

Introduction.—Definition, scope and explanation of such terms as drugs, pharmacology, pharmacy, materia medica, therapeutics, etc. Constituents of organic drugs, classification of medicines, administration of medicines, dosage. The section on classification is particularly to be commended to students who wish to obtain a concise, yet exhaustive knowledge of this very important subject, and to physicians who desire to refer to a compendious, yet brief, article on the physiological action of various groups of agents.

The appendix contains lists of Latin words, phrases and abbreviations, with their English equivalents, used in prescriptions, genitive case endings, etc. Formulæ for hypodermic injections, a comparison of ten formulæ of chlorodyne, formulæ of prominent patent medicines, tables of differential diagnosis, table showing the number of drops in a fluid drachm of various liquids and the weight of one fluid drachm in grains, and a table for converting apothecaries' weights and measures into grammes. Pasted inside the front and back covers are useful tables of equivalents of weights and measures and prescription doses and quantities.

The Index consists of about forty double-column pages and is most minute in each detail; cross references being avoided as far as possible. The common, as well as the scientific term, being given in many instances in order to meet the requirements of quick reference.

A Thumb Index in all copies indicates each main division of the book, greatly facilitating its use for either study or reference.

THE IOWA MEDICAL JOURNAL, published at Des Moines, Iowa, with Dr. E. E. Dorr, as editor, is the only medical journal published in the great educational State of Iowa. The January number, each year, gives a complete directory of the physicians of Iowa, and is as near correct as it is possible to make such a list. The journal is certainly to be congratulated on the progressive feature of all its departments, and more especially in giving such a thorough list of the physicians of Iowa. We wish them success.

THE MEDICAL BRIEF

A Monthly Journal of Scientific Medicine

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Editorial.

Medical Legislation.

When will doctors learn that medical legislation is really a detriment to them?

Do those doctors who favor a law, giving them the right to invade homes and vaccinate the occupants against their will, ever stop to think that the other man has as much right to his opinion as they have to theirs?

The Editor of this journal believes that the weight of evidence, at this time, is in favor of vaccination *and, therefore, he indorses that practice*, but the last word has not been said, and he realizes that the other man has an equal right to hold a different opinion.

No law can give the right to use force upon a man unless he enters the criminal classes. Special laws are designed to enable their promoters and beneficiaries to take an unfair advantage of the other fellow and, as such, are un-American and repugnant to the natural sense of justice.

The law which requires the practitioner of ten, twenty or thirty years' standing, on removing to another State, to pass the examination put before inexperienced boys fresh from college, while it may have an appearance of fairness, is both unjust and unwise. The old doctor's knowledge of diagnosis and drugs, the really important things in practice, is a gold mine, but he has probably forgotten a good deal about the insertion of muscles, and other minor matters which the tyro has crammed for examination purposes.

A great many very sensible people, because they do not stop to think, really believe that special laws are passed to improve conditions and elevate standards; practical politicians want them passed, *because it brings grist to the mill of the machine.*

The real reason why we have so many laws is because they create offices, provide places and salaries for machine workers. They increase the tax-payer's burden to no purpose. The man in such an office devotes himself to the interests of the machine rather than of the people. Little, if anything, of a practical nature, is accomplished. Moreover, the man who holds such an office steadily deteriorates. His environment and occupation do not stimulate manly development and he retrogrades until he is nothing more than a cog in the machine.

All the talk about purifying and reforming things is merely to create a favorable public sentiment. You can not pass a law to keep a man from being a thief and a scoundrel, nor to elevate him. The most that can be done is to educate him, teach him how to think and to rely on himself, then let him alone. If he does not keep straight under the influences of public opinion, and his own observation of the workings of Nature's laws, the common law provides *ample means* for punishing him, redressing injuries and regulating abuses.

Good for Doctors.

The subject of good roads is one of great interest to the doctor. In addition to the direct benefits which they afford doctors, as a class, they have a civilizing and humanizing influence over the various communities which they bring into closer touch with each other.

Oil.

Every person requires a certain amount of oil in his food in order to be healthy. Our ancestors lived, to a large extent, on olives, peanuts, chestnuts, and other nuts containing oils. The present generation uses too little oil in its diet. This can be taken in the shape of the pure expressed olive oil, as an emulsified salad dressing, or by eating nuts, olives, etc. It may be a matter of choice how the system gets its oil, but a certain amount is essential to the enjoyment of good health. The good results of the habitual use of the above articles in the diet are soon shown, especially where persons are inclined to colicky indigestion and constipation.

Doctors will do well to instruct their patients to use pure olive oil in moderate doses, also as a dressing for salads. Various kinds of nuts have a high dietetic value, because of the oil which they contain, and can be used to advantage. When patients incline to consumption, pure cod-liver oil ranks at the head of oily substances, but the lesser oils can also be taken in moderation.

Nature furnishes us many cues for the successful treatment of diseases, if we will but study her methods instead of following fads. The result will be greater progress in building up resistance and immunity to disease.

[Written for the MEDICAL BRIEF.]

"Liquid Medicines vs. Alkaloids."

BY PITTS EDWIN HOWES, M. D.,

Secretary Massachusetts Eclectic Medical Society and Boston District Eclectic Medical Society; Ex-Secretary National Eclectic Medical Association.
Boston, Mass.

In several of the medical journals there appeared an article, written by me, entitled "Superiority of Liquid Medicines Over Alkaloids."

The fact that it has been copied extensively by the medical journals of the allopathic, homeopathic and eclectic schools is sufficient evidence of the interest which it awakened among the editors of medical literature. Many favorable comments have been received regarding the position there taken.

As far as I have been able to ascertain, the criticisms against it have emanated only from those who are the followers of the teaching of the Abbott Alkaloidal Co. regarding the use of their preparations. Indeed, the most extended of these is from the pen of one of the editors of their journal, appearing in the February number of *The American Journal of Clinical Medicine*, formerly *The Alkaloidal Clinic*. By the way, if their method of prescribing the alkaloids is so far in advance of everything else known to the science of medicine, why have they dropped the word "alkaloidal" from their title?

The casual reader of the criticism on the editorial entitled "The Rounder" might think that some good points had been scored in favor of the alkaloids. The critical reader, however, who is familiar with the article which called the editorial into existence, must admit that the larger portion of the argument is based upon the two weakest parts of all discussions, namely, sarcasm and ridicule. These are always the weapons of those who feel their logic is poor and their cause weak.

To the assertion that the article under criticism was written to aid any special manufacturer, I wish to make an emphatic denial. My intention was to show —and I still contend most positively that it does—the superiority of liquid medicines over alkaloids along three distinct lines, viz.: they are more easily absorbed, they exert their action more in conformity with Nature's laws, and they represent the product of Nature's laboratory.

Any one at all familiar with the laws of endosmosis and exosmosis must admit that such action only takes place with liquids. Hence, if solids are introduced into the stomach they must be reduced to solutions before they can be taken into the blood and exert any effect. As soon as your alkaloid is dissolved it becomes a liquid and acts as such. The alkaloidalists recognize this fact when they make their solution before administering their drugs. There are many physicians, however, who prescribe the alkaloids in the form of tablets—more or less soluble—and these come under the head of solids and must be treated as such.

Vast quantities of quinine and strychnine tablets, or pills, are consumed by the American people annually. It is a debatable question whether they do more harm than good. There is no doubt that many deaths have been hastened by their excessive use. The condition known as quinism is far worse than that for which the massive doses of quinine are frequently prescribed.

Many times the continued use of strychnine produces an extreme hyperemia in the vascular system, which tends to prolong, instead of shortening, the difficulty.

Liquid medicines exert their action more in conformity with Nature's laws, because they more nearly resemble Nature's method of reproducing her own products. Show me a single work of Nature, either in the animal, vegetable or mineral kingdoms, that is formed by the use of active principles alone, and I will be more willing to adopt the theory of exclusive alkaloidal medication.

There is no chemistry which is so complex as that which is found in Nature's laboratory. She makes use of no needless ingredients. They all have their use and are employed for some specific purpose. Therefore, when we employ remedies made from plant structures instead of plant fragments to restore the loss of equilibrium in man's physical condition, we are working along the lines established by Nature herself, and our efforts are more likely to be crowned with success.

The gist of the argument, however, in favor of the liquid medicines as opposed to the alkaloids is, that the former represent the *whole* plant, and the latter only a part, and possibly not the most important part at all.

Chemistry teaches us that sulphuric acid is represented by the formula (H_2 S O_4). That this acid is composed of sulphur trioxide (S O_3) and water (H_2 O). Hence, sulphur would represent the alkaloidal principle of the acid, as the hydrogen and oygen are simply gases when reduced to their free state. Would any intelligent physician prescribe sulphur with the expectation of getting the caustic effect of sulphuric acid? Again, drop a single atom of oxygen from your sulphuric acid formula and you have sulphurous acid, the effect and use of which is entirely different from that of the stronger.

If a slight change makes such a profound result in a comparatively simple chemical compound, how can you estimate the change which takes place when *all* the elements except the alkaloid are eliminated?

In the article "Superiority of Liquid Medicines Over Alkaloids," I asked this question: "Who would be rash enough to assert that all the good of cinchona lies in the quinine, or of nux in strych-

nine?" My alkaloidal editor answers: "Only about nineteen-twentieths of the medical profession; and not one-hundredth would attempt to secure from the crude plants the benefits obtainable from these two alkaloids." That may be *his* opinion, but I am not ready to accept it as that of the profession at large.

It belittles the use of nux vomica and cinchona in a way that is not at all compatible with the facts as known by those who are most expert in their use. Nux vomica has a place in the practice of medicine that is infinitely larger than the *legitimate* place of strychnine. Strychnine is primarily a heart stimulant, and should be confined to stimulation of the muscular fibers of that important organ. Even here it should be used with care and moderation, for its excessive use will, most likely, produce undesirable results.

Nux vomica, on the other hand, has a wide range of action. The entire digestive tract will feel its beneficent action. Therefore, the use of nux vomica would naturally be as extensive as that of strychnine—with its contracted realm of action—would be restricted.

This may seem strong language to those who have not made a study of nux vomica, and do not understand what can be done with this remedy in large and small doses. I believe, however, that over nine-tenths of all eclectic and homeopathic physicians, and not a few of the allopathic, would bear me out in these statements.

Our alkaloidal editor—he did not sign his name—also tells us that "Nature regulates the plant physiology for the sake of the plant, and not for a supposititious human being who is to be created some millions of years later." Has he forgotten the fact that the fauna of each cycle of the world's history are adapted to that particular period in which they are found? That it would be as impossible to find the plants of our period in those of prehistoric times as it would be to find the animals of that age in the world today! Vegetation on the earth's surface has ever been adapted to the needs of the animals living thereon. Hence, it is not "poetic or superstitious," but most emphatically practical common sense, to assert that the medicinal qualities in plants of the present time were intended for the use of those now inhabiting the globe.

The whole history of the eclectic school of medicine is a proof of the truth of this statement. They have always used, in their investigations and treatment of diseased conditions, the preparations made from the entire plant. In the past seventy-five years they have collected and formulated a vast amount of practical knowledge upon the use of the indigenous remedies of our country. The value of their work is just beginning to be appreciated by the medical profession at large. Their method of cure is being more extensively practiced than ever before.

As these deductions have been drawn from experimentation with the whole plant, and not with plant fragments, it ought not to be expected that their drug indications would serve as a guide for alkaloidal administration. That this is attempted, any one can readily satisfy themselves by reading the literature on the subject of alkaloidal medication.

I am accused of doing my colleagues a "*gross injustice,*" when I claim that their freedom from therapeutic nihilism is due to their use of liquid medicines. That statement has been made many times before in eclectic medical literature, and has never been questioned. It remains for the alkaloidal editor to be the *first*—as far as I know—to raise the question. How far his interest in the Abbott Alkaloidal Co. caused him to make such a statement I leave for him to determine.

The alkaloidal craze was fought out in the eclectic school during the "fifties," long before John Uri Lloyd was identified with the manufacture of medicines.

My acquaintance among my colleagues is quite extensive, and I have yet to learn of a single one who has abandoned the use of the liquid medicines for that of the alkaloidal principles.

Enough has been said to counteract the statements in "The Rounder," as published by our alkaloidal editor, and I am willing to leave the result in the hands of a discriminating and intelligent medical profession.

THE MEDICAL BRIEF

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[Written for the MEDICAL BRIEF.]

Rickets.

BY GEORGE. CARPENTER, M. D. (LOND.), M. R. C. P. (LOND).

Founder and Editor of the British Journal of Children's Diseases; Editor of the Reports of The Society for the Study of Disease in Children; Physician to the Northeastern Hospital for Children and late Physician to The Evelina Hospital for Sick Children. London, England.

How often has one overheard, in the course of one's visit to the wards of the hospital, the expression, "only a case of rickets," as the rickety child has been hastily passed over by the student in search of rarer, though far less important, disorders. And yet it is a complaint which merits attention, for it is indirectly responsible for many deaths, and directly for much infantile suffering and physical deterioration. Fortunately, it is readily prevented, and when contracted it can be cured.

In reviewing the disease I can not avoid mentioning much that is commonplace and well known too, for, indeed, it must be so, but I will not try your patience too severely by dwelling upon the more obvious details of this disorder.

Rickets is a disease which is very prevalent amongst our poor infantile population, where it is seen in its most marked forms, but in milder degrees it is quite common amongst the rich and well-to-do. It is most prevalent between the sixth and eighteenth months of life. While it is uncommon to meet with striking evidences of rickets before the sixth month, the disorder is usually declining by the fifteenth to the eighteenth month, though active cases of it are seen from time to time as late as two or three or more years old. Thus, it is well in evidence during the farinaceous age, the reign of proprietary foods. In regard to the anatomical and pathological changes which arise in rickets, they are complex and are by no means confined to the bony framework; thus the ligaments, the muscles, the nervous, pulmonary and gastro-intestinal systems, the cutaneous and subcutaneous tissues, all suffer in varying degrees in this disorder. In the skeleton there are certain situations where one is accustomed to look for the earliest and most pronounced changes—thus the costo-chondral junctions, the ends of the wrists and the ankle ends are the most usual situations for attack, though no parts are free from invasion. In exceptional cases the ends of the metacarpal bones and the phalanges may present obvious structural alterations. The enlargement of the ends of the long bones is not confined to these situations, all may suffer in varying degree, and they are always involved in pairs. Further, alterations in size in the knees, the elbows and shoulders are not so readily detected, unless there be a

pronounced alteration in contour. The cartilaginous area which unites the epiphysis and diaphysis, the line of growth in length, is in rickets greatly enlarged, may be to four or five times the normal. This cartilaginous enlargement at the ankles forms a very decided ridge between the diaphysis and epiphysis—the rapidly-growing cartilage is under great pressure, and bulges out at the seat of least resistance.

At the costochondral junctions are found distinct knobs, or beads, which collectively have been designated the rickety rosary. The enlargement of these junctions is much more marked on the inside of the chest than on the outside, so that with trifling bossing on the exterior there will be very decided nodes on the interior. Moreover, beaded ribs is one of the earliest and most characteristic evidences of the complaint. The enlarged bone ends of congenital syphilis are distinguishable from rickety enlargements, to which they bear resemblance, by the fact that the lesions in congenital syphilis extend some little way up the shafts of the bones, and are not confined to the epiphyses. Syphilitic epiphysitis usually arises within the first three months of life. The wrists are not infrequently involved, but I have not seen the costochondral junctions attacked.

In this cartilaginous area unusual and extensive preparations are made for the building of bone which, however, only results in a jerry-built structure of imperfectly-calcified osseous tissue, inclosing enlarged and very vascular medullary spaces, islets of imperfectly-calcified cartilage, and columns of hypertrophic proliferated cartilage cells. In the epiphyses, which are also enlarged, the centers of ossification are increased in size, and they are softer and more vascular than usual. The shaft shows a softened and spongy bone beneath the periosteum, the medullary canal is larger and more vascular than it should be, and the trabecular spaces are also much enlarged, so that the bone is much more porous than usual. Accompanying these histological changes there is a great diminution of lime salts—the proportion perhaps being one-third lime to two-thirds animal matter, the exact opposite to the normal condition of affairs. Rickety bones are, therefore, very soft, they easily bend and readily undergo green stick fractures. Thus are produced various characteristic injuries and deformities. Of common accidents may be mentioned fractures of the clavicles, the ribs, the radius and ulna. Thus, of the ribs *posterior* beads may be found on one or both sides of the back of the chest in severe cases of rickets. The beads are produced by callus deposited round green-stick fractures, caused by lateral compression of the chest when lifting the child. Fractured clavicles arise from holding up the child by the arms, and of the forearms, usually the left, from roughly grasping the child's wrist by the right hand of the nurse. Of common deformities may be mentioned the following. A convexity on the backs of the radius and ulna from the habit of resting the weight of the trunk and head on the hands, and when crawling. The humerus also may develop a forward and outward curve from the same cause. The femur may be bowed forwards, or a forward and outward curve develop with the production of a wide interval between the thighs, from the child being carried too much on the nurse's arm, or from sitting on a chair with the legs dangling. If the child is in the habit of sitting cross-legged there occurs an outward rotation of the femur, so that the foot faces outwards, instead of forwards.

The production of knock-knee has been explained in a variety of ways. Either by a more rapid descent of the inner condyle of the femur than the outer, or owing to premature synostosis of the outer half of the growing bone, or from overgrowth of the inner half of the epiphysis and the internal condyle, or from defective development of the outer condyle, or from absorption of an ill-developed rickety outer condyle. Double bow leg is due to a general outward bowing of the thighs and leg bones, and may be occasioned by putting the child too early on its legs. Or to the child sitting on the floor with both thighs adducted and rotated outwards—the knees are unsupported and the limbs rest on the hips and ankles. If the feet are habitually crossed the curve will be most obvious at the lower third of the tibia, and the leg which usually rests on the other will pre-

sent more of an anterior and less of an external curve. It may arise from the reverse conditions to that which bring about knock-knee. If it is one-sided, the other side being knock-knee, the bow leg then arises secondary to unilateral knock-knee, and the deformity is mechanical, being produced along the line of pressure, and is the result of the knock-knee. Of the tibia alone the most common curve is a sharp bend, with its convexity outwards and forwards at the lower third.

Of deformities of the cranium, there are two to which I will specially draw attention, viz., craniotabes and cranial osteophytes, or Parrot's nodes. Both of these conditions have been viewed as evidences of rickets.

The former, it has been stated, is one of the *earliest* indications of rickets, contemporary with beaded ribs, or even preceding that condition. Further, it has been repeatedly stated, and is still copied from text-book to text-book, that craniotabes usually occurs in the occipital bone. Such is not the case; in my experience the parietal bone is the one most commonly attacked, and behind the parietal eminences. Further, craniotabes occur when rickets is *least in evidence;* if the child be very rickety it is almost a certainty that craniotabes will *not* be present. It is most common between the second, third and fourth months of life, and is very infrequently found at about the ninth month. I am certain of the following, viz., that craniotabes is often a syphilitic manifestation. That it invariably denotes syphilis I do not think, but that it is an indication of rickets I do not believe. If it be a rickety manifestation, then it should occur at least with some frequency when the patient is most rickety, and that is just what does not happen. Further, if it be present it may disappear, while the rickets persists or increases.*

Cranial Osteophytes, or Parrot's Nodes may be distributed irregularly over the skull, but they are more often placed symmetrically over the frontal bones, or are arranged in hot-cross bun fashion.

Unlike craniotabes the condition nearly always arises after the ninth month. It is held by many that cranial bossing is a rickety manifestation, a view with which I am not in accord. Of some forty cases which I published some years ago† in but half of these was rickets either marked or very pronounced. Fifty-seven per cent of my cases were definitely syphilitic, although anti-syphilitic treatment had no effect on the condition. In this respect Parrot's nodes are unlike craniotabes, for mercury often rapidly consolidates the skull. Half of my cases also had splenomegaly, and splenomegaly is quite uncommon in rickets, in my experience, in spite of what has been stated to the contrary. It is most unusual to find Parrot's nodes and craniotabes in the same patient, but I have done so exceptionally, and I have seen craniotabes recover without antisyphilitic treatment, and be followed later by Parrot's nodes. Apart from Parrot's nodes the skull is not apt to be larger in circumference than that of a child of the same age, although it *is* out of proportion to the rest of the body. A constant cranial concomitant of rickets is late closure of the anterior fontanelle; thus it may be found widely open as late as two or three, or more, years old. Of hydrocephalus and hypertrophy of the brain I have had no experience, and I do not believe in their existence as a manifestation of rickets. The chest presents important and characteristic deformities. The thorax falls in at the costochondral junctions, and the sternum is thrust forward, producing a deep, vertical groove on either side, just behind the line of junction with the ribs and costal cartilages, and a violin-shaped outline in place of the normal round figure. With this change is associated a transverse groove, some two inches in diameter, running horizontally across the chest at the level of the upper end of the xiphoid cartilage, and marking the highest situation of the costal arch, with eversion of its edge, also takes place below the level of the eighth rib, and the abdomen is rounded and distended. The thoracic part of the chest is narrowed, and its air capacity is greatly reduced. The abdominal portion is enlarged. As a consequence, there is apt to take place collapse of the lungs, and bronchitis and broncho-pneu-

*"Reports of The Society for the Study of Disease in Children," vol. 3, pp. 214-231.

†"Syphilis of Children," pp. 70-74. Reports of The Society for the Study of Disease in Children, vol. 4, p. 159.

monia are frequent accompaniments. In the worst cases the outline of the chest at the nipple level can be comfortably contained, and with room to spare, within a cyrtometric tracing of the skull. These deformities are due to atmospheric pressure acting upon softened chest walls, and such defects are exaggerated when the child has enlarged tonsils and adenoids, which are not infrequent associates of rickets. It is important to be aware of the fact that spinal curvature—kyphosis—is a not infrequent accompaniment of rickets. The curve extends from the middorsal to the sacral region. When recent it disappears if the child be suspended, or if traction be made upon the legs when in the abdominal decubitus. It can thus be readily distinguished from spinal caries. But in long-standing cases it may not disappear entirely. Lateral curvature is much less common—the rotation is usually to the left side. Deformities of the pelvis are of occasional occurrence, according to some observers, though others record a much greater prevalence. Narrowing of the antero-posterior diameter, and narrowing of the subpubic arch, are the most constant deformities. Irregular pelvic deformities may also occur. These conditions are of extreme importance to the infant, inasmuch as undue pressure on the skull during parturition may induce meningeal hemorrhage in the newborn, with its legacy of mental defects and spastic paralysis.

Weakened and elongated ligaments, to which rickety children are especially prone, are responsible for many deformities; thus, spinal curvatures, weak ankles, flat feet, genu recurvatum and undue mobility of the joints are within the experience of all. In some cases so lax are the ligaments that the feet can be so twisted that the toes point in the reverse direction to that which is natural, the child in no way resenting the torsion.

Arrested growth of the long bones is a very characteristic feature of this disease, so that rickety patients are stunted in stature, the differences being almost entirely in the lower extremities. Premature synostosis may be expected in the severe cases.

Muscular weakness is a most characteristic symptom, and, indeed, may be most marked when the bones are but slightly affected. The muscles are small and flabby, and rickety children find it difficult or impossible to sit up, or stand, or walk. Walking is very late; indeed, paralysis may be suspected. The detection of normal electrical reactions readily separates this disease from infantile paralysis. Muscularly weak, rickety patients are apt to waddle, when walking, and to "climb up the legs" when arising from the floor, as happens in pseudo-hypertrophic paralysis, but in pseudo-hypertrophic paralysis some of the affected muscles are sure to present characteristic pseudo-hypertrophy. The weakness of the abdominal muscles, in part, is productive of the characteristic pot-belly, but a similar atonic condition of the gastro-intestinal tract intensifies the deformity, which is dependent upon chronic gastro-intestinal catarrh, accompanied by intestinal putrefaction, and periods of diarrhea, alternating with spells of constipation. Abdominal enlargement in these cases is apt to be mistaken for tuberculous peritonitis. A rectal bimanual examination, under an anesthetic, renders the diagnosis easy and certain.*

Tenderness of the limbs is not a feature of rickets; should there be tenderness in these cases there may be some injury to account for it, but if none be found think of scurvy and search for the usual diagnostic signs of scurvy, and scurvy is often associated with rickets, though not of necessity.

The liver, in rickets, is but seldom enlarged, but it may be pushed down if there be considerable chest deformity. Splenomegaly is quite infrequent. It occurs, as has been already remarked, in about half the cases of Parrot's nodes. Splenic enlargements, which are not uncommon during the first six months of life, and, also, between the ages of the ninth month and the third year, occur more frequently in non-rickety infants than in rachitic.† Moreover, it is decidely uncommon to find

*"Never Forget to Make a Rectal Examination in a Child," by George Carpenter, M. D. The British Journal of Children's Diseases, vol. 2, No. 5, May, 1905.

†"On Splenomegaly in Infants and Young Children," by George Carpenter, M. D. Reports of the Society for the Study of Disease in Children, vol. 3, pp. 296-317.

splenic enlargements in rickets. It occasionally does happen, but it is exceedingly doubtful whether the enlargement is due to that disorder. The spleen, like the liver, may be thrust down by marked deformity of the chest.

Dentition.—Some years ago, in *The London Lancet*, I called attention to the teeth of rickety children, and dissented with the prevalent view that rickets produced carious teeth. Dentition is apt to be delayed and difficult, but usually the teeth are good. It is in syphilis, and not in rickets, that the tendency to early decay is so marked.

Anemia is not an obvious feature. There may be decided rickets, and yet the child may appear rosy looking. A mild anemia is, perhaps, not uncommon; a reduction in hemoglobin, with but trifling alteration, if any, in number and character of the red corpuscles. But the hemoglobin may be as low as thirty per cent, and there may be marked leucocytosis.

The mucous membranes are prone to catarrh. The upper and lower air passages frequently suffer, and bronchitis and broncho-pneumonia are of constant occurrence. The gastro-intestinal tract is a perpetual source of trouble—slimy and offensive motions alternating with constipation. Owing to the abnormal tendency of the mucous membranes to catarrh, enlargements of the glands in connection with these structures are of frequent occurrence. Rickety patients are prone to urticaria. They are usually fat and flabby, and are rarely thin, like marasmus cases.

Of nervous ailments commonly associated with rickets may be mentioned convulsions, laryngismus, and tetany, all probably toxic in origin. Restlessness at night is quite an early symptom.

Such, in brief, is a short and sketchy account of the disease called rickets. The earliest indications of the disorder are sweating of the head, extreme restlessness, beading of the ribs, and gastro-intestinal disturbance. The disease may last for a few weeks, but its duration is usually months and, exceptionally, years. When rickets recovers sweating disappears, sleep is peaceful, the fontanelle closes, the teeth are cut, catarrh ceases to be a trouble, and the child becomes firm in flesh and energetic, and is anxious to get about.

Although rickets is not, in itself, a fatal complaint, it is a dangerous complication of respiratory disorders, by reason of the chest deformity, and the flabby respiratory muscles.

The essential cause of rickets is improper food. It is a matter of every-day observation in England that breast-fed infants rarely develop rickets, unless lactation be over-prolonged and other food be withheld. Such breast milk is deficient in fat and proteids, and contains an abundance of carbohydrates. Bottle-reared infants are very prone to rickets, especially those who are fed on the proprietary foods, which provide the nursling with a superabundance of carbohydrates and a deficiency of fat and, perhaps, of proteids also. Sweetened condensed milk is also apt to produce rickets, and this lacks fat and contains an excess of carbohydrates. But starvation will not produce rickets; a starvation diet brings about marasmus, not rickets. A faulty dietary leads to chronic gastro-intestinal catarrh, chronic gastro-intestinal catarrh to the manufacture of toxins, and it is probable that chronic blood poisoning by bowel-produced toxins is at the root of the various manifestations of this complaint. Rickety children always suffer from bowel troubles, and if there be rickets there will certainly be gastro-intestinal disorder, and I do not think rickets can occur without such. While it is certain that rickets can be caused by dietetic errors *alone*, other factors must be mentioned. Thus, feeble maternal health during pregnancy and excessive child-bearing are likely to produce rickets in the offspring. Parental syphilis, tuberculosis and alcoholism also favor a rickety infancy. Lack of sunshine and fresh air are important stepping stones to rickets. As rickets is due to improper food and defective hygiene, it is an eminently preventable disease. Given a proper dietary and healthy surroundings there need be no fear of rickets.

Late Rickets.—Active manifestations of rickets are quite unusual after the third year, though it is by no means uncommon to find some beading of the ribs in children of eight or ten, or more, years old. It

is difficult to put a value on beaded ribs. In my experience beaded ribs in children are like the poor—always in evidence. I have frequently seen it in new-born babies, and I constantly find it in children of all ages, when I look for it. I can hardly remember a case in an infant where I have not found some evidence of beaded ribs. I am, therefore, rather chary of labeling children with some beading of the ribs, rickety, *ipso facto*. But knock-knee and flat-foot are not infrequently seen in outpatient departments in such children and in adolescents, and such cases are obviously rickety in slight measure. However, apart from these examples, from time to time, though admittedly rarely, cases of active and pronounced rickets are seen at the above ages. Whether such examples be a recrudescence of the disorder, as is held by some, or a fresh manifestation of the complaint, as thought by others, is not finally settled. I have seen it marked in a child of five and one-half years, with scurvy*, also, in a child of eight years, and in both the conditions started in infancy. I have also seen it in a boy of nine years, under Dr. Robert Hutchinson's care.†

Fetal rickets is a condition of imperfect ossification, induced by maternal ill-health, or by privation during the pregnancy. Intrauterine fractures occur, or take place, shortly after birth, and the bones are bent. The skull bones become craniotabic. In some the epiphyses are enlarged. It is not a rickety manifestation, it is an osteoporosis. The preparations for ossification are very slight, indeed, but what bone is formed is calcified, and the cartilage matrix is also calcified, although the lime salts are deficient. In rickets there are very extensive preparations for ossification, but calcification is deficient, in spite of the abundance of lime salts, and the cartilage matrix is not calcified.

In achondroplasia the child is dwarfed in stature, the dwarfing being in the legs. The extremities are about one-half the natural length, the chief diminution being in the femora and humeri, and the ends of the diaphyses are expanded antero-posteriorly and laterally. All the long bones are stunted, but the membrane bones are not affected. If picked up the child feels unduly heavy, and the bones are unusually solid.

Finally, it must not be forgotten that the disorder is apt to be capricious in its incidence—sometimes the muscles chiefly suffer, sometimes the bones, and sometimes the ligaments, though one is apt to make for the osseous changes in the first instance, and rightly so.

The treatment of rickets, when it has commenced, is to substitute a proper dietary, and provide a suitable environment. Excessive carbohydrates, farinaceous diets and proprietary foods should be forbidden, or reduced to proper proportions. Clean milk and cream, fats, eggs, and red meat, in appropriate quantities, and at suitable intervals, are the backbone of dietetic treatment. Fresh air day and night, and as much sunlight as possible, are indispensable adjuncts, and sea air is very beneficial to these patients. Of drugs, apart from those remedies which should be used to bring about a healthy bowel action, and salol, quinine, and carbolic acid, along with bismuth preparations, are of some service in this respect; the most useful is cod-liver oil. Phosphorus, one two-hundredth of a grain, in cod-liver oil, thrice daily, has been praised by some, but I have ceased to use it for quite a long time. If the child be anemic, iron-vitellin, in doses of two or three teaspoonfuls, thrice daily, will be useful. The general restlessness and sleeplessness should be treated by bromides, etc. Oxide of zinc, in two-grain doses at bedtime, or thrice daily, will control profuse sweating, but it is not often necessary to treat this symptom. For muscular weakness, order massage. Cold douching is an excellent tonic, and lessens the tendency to catarrh.

During the active stages of the complaint the aim should be to prevent deformities—thus, while the bones are soft, the child should be kept off its feet by using splints, which should reach from the hips to three or four inches beyond the feet, and the bones, if bent, can be straightened by daily manipulations. To prevent

*"Scurvy in a Rickety Boy, Age Five and One-half Years," by George Carpenter, M. D. Reports of The Society for the Study of Disease in Children, vol. 2, p. 146.

†Reports of The Society for the Study of Disease in Children, vol. 5, p. 181.

lateral curvature, have the child carried on both arms, alternately. To overcome kyphosis, do not allow sitting up, unless the trunk be supported, and the shoulders held back. For a few minutes daily place the child upon its face, and have the spinal muscles massaged. The assumption of those faulty positions by nurse and patient which produce deformities must be prevented. Thus, the habit by the former of carrying the child with the legs dangling, and of the latter of assuming the cross-legged attitude, must be corrected.

Rickety deformities of the chest, which have become chronic, are benefited by breathing exercises, and by those gymnastics which develop the chest muscles. The deep grooves may entirely disappear, and what is, perhaps, quite characteristic of rickets at five or six years old, will have completely recovered a few years later.

[Written for the MEDICAL BRIEF.]

The Therapeutical Uses of Strychine and Its Allies.

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Late Lecturer on Materia Medica, Pharmacology and Therapeutics in the Westminister Hospital, London, and Examiner of Materia Medica in the Universities of Edinburgh, Glasgow and Aberdeen; Hon. Fellow of the Medico-Chirurgical College of Philadelphia. London, England.

In my former papers I have dealt with the pharmacological action of strychnine. In the present contribution I propose dealing with the practical application of the facts so ascertained to the treatment of disease. Incidentally, I may remark that all rational therapeutics, modes of treatment that is apart from epiricism, must of necessity be founded on pharmacological evidence. It is the custom of the hour to decry the work of the pure pharmacologist, but without him and his methods no real advance can ever be made in the rational treatment of disease.

The action of nux vomica and of its alkaloids is practically the same, so that either may be prescribed, according to considerations of convenience and safety.

In dyspepsia, of the simple atonic form, strychnine, or tincture of nux vomica, is often of the highest value; it is best given alone, but an excellent combination is the tincture, with dilute nitrohydrochloric acid—five-minim doses of the former, and ten or fifteen of the latter. It has also good influence upon the gastric irritation of alcoholism; it may be added that heartburn, hiccough, regurgitation, and even pyrosis, when chiefly due to atonic dyspepsia, may frequently be cured by a short course of this medicine. It is often useful in the morning sickness of pregnant women, also in abdominal cramps and spasms. In cases of anachlorhydria, or "anadenia gastrica," as Ewald calls them, cases characterized by failure of gastric secretion of unknown origin, but probably dependent on some functional derangement of the nervous system, strychnine injections are useful, not only by restoring the normal hydrochloric acid to the secretion, but increasing the motility of the stomach.

On the other hand, cramp and pain in the bowels may be caused by ordinary (about five minims) doses of the tincture of nux vomica in some patients, especially, as I have noticed, in nervous, delicate women; it is well, therefore, to begin with one to two minims.

Brunton, in an interesting paper, describes strychnine as "at once a gastric, vascular, and nervous tonic," aiding appetite and digestion, preventing putrefaction, and exciting the sensibility of the vasomotor center.

In atonic conditions of the intestine strychnine is of service, especially in that apparently almost hopeless form of constipation in which the large bowel does not contract properly, and becomes passively loaded with more and more feces, day after day. In prolapsus ani, arising from such a state of rectum and sphincter, nux vomica is strongly recommended, and I can speak with equal emphasis of its benefit in hemorrhoidal tumors of the anus. Five drops of the tincture of nux vomica, taken in a tumbler of cold water before breakfast and dinner, act as a laxative, and often overcome obstinate constipation. In some forms of diarrhea, *i. e.*, when there is debility without irritation, and when it is readily excited by nerve

causes, and the muscular coat of the bowels is wanting in "tone," small doses of the drug are, however, well combined with other remedies, such as acids. In subinvolution of the uterus in weakly subjects, strychnine is of service.

In dysentery, with much depression and tympanites, it may be useful. Even in cholera, combined with sedatives, it is said to have acted well.

The earliest applications of strychnine in medicine were directed to the cure of paralytic affections, and for many years it was employed indiscriminately, and often in too large doses. It was thought that the drug should be pushed to the production of actual symptoms of poisoning, and doses as high as one-eighth and one-quarter grains, twice or three times a day, were often reached, with the frequent result of throwing the patient's nervous system into great disorder, manifested by twitchings of the limbs, hyperesthesia of the retina and the auditory nerve, and a state of perpetual restlessness. It was discovered, after a time, that such effects were injurious, rather than useful, and although it has been stated that tinnitus must be caused before any benefit can be expected, violent strychnine action is specially hurtful, while the drug in any dose is valueless in certain forms and stages of paralysis. In paralysis of cerebral origin it is seldom beneficial; on the contrary, its early use in these affections, especially such as proceed from hemorrhage, has often proven mischievous. It would be natural to expect better results from its employment in spinal paralysis, yet even in such cases there is frequent disappointment, and in the early stages of organic lesions it may do harm, if given in large doses. Its chief value in cord diseases seems to be in chronic affections of the anterior horn cells, particularly in progressive muscular atrophy, where it has seemed in some cases to lead to arrest of the morbid process.

In functional paralysis, such as that connected with hysteria, with sexual excess, or concussion of the cord; in paralysis due to lead, alcoholic or diphtherial neuritis, strychnine is often of use, decidedly promoting recovery of power in the muscles. Some cases of facial palsy and of aphonia have been improved by it. The local injection of a solution of strychnine has been employed in the treatment of prolapse of the rectum and varicus occupation neuroses, but it is probable that any effect it may have is not exerted locally.

Cases of "craft-palsy," *e. g.*, of fingers from flute-playing, and of "writer's cramp" have been cured by hypodermic injections of strychnine, after failure of other measures.

Barwell treated effectively cases of infantile palsy (chronic) by strong solutions, using as much as one-sixth of a grain at a time, which excited sufficient local inflammation to limit absorption. A sixth of a grain is a large dose, and it would be better to give not more than one-twelfth, using a two per cent solution. Even then the injection should not be repeated more than twice a week. It must be remembered that children are very susceptible to the action of strychnine.

In anesthesia of functional character, the good effects of the drug are often very marked; a circumstance which illustrates a difference between its poisonous and therapeutical actions, since among the former we scarcely find any direct and evident effects upon common sensation.

In tremors and ataxic movements of certain kinds strychnine has proved useful; for instance, in the tremor of chronic alcoholism, part of its beneficial action being due to its removing the usual catarrhal condition of the stomach. In some cases of hysteric tremor, where the hysteria is merely the product of great bodily weakness, induced by illness or exhausting fatigue, it is similarly beneficial. In the later stages of chorea, particularly in those cases where fright, or the disturbing effect of commencing puberty, rather than rheumatism, is the principal cause, strychnine in minute doses (one-eightieth of a grain *ter die* for a child of ten years, one-sixtieth to one-fortieth of a grain after puberty) has often been found of use.

This, however, is not the best treatment for chorea, nor the one most commonly employed. I should place much more reliance on (1) arsenic, (2) sulphate of zinc, or (3) ergot, all in fairly large doses.

In epilepsy, when bromides depress too much, strychnine acts beneficially in certain cases, in combination with them. Notably in the nocturnal attacks of anemic weakly subjects.

Although the combination of potassium bromide with strychnine is often prescribed, it must be remembered that these drugs are physiologically antagonistic.

In cases of impairment of the nervous apparatus of sight and hearing, strychnine is useful. As regards vision, no one, of course, expects it to do good in those diseases in which the tissue of the retina is destroyed by inflammatory, or degenerative processes, but there is reason to think that cases of simple atrophy may be really improved by it. Nagel especially brought forward cases of amaurosis, and of white atrophy, in which improvement occurred, and similar results may be verified in the amaurosis from tobacco, also amblyopia from debility, or remaining after operation for strabismus; but in other cases not much must be expected.

Rampoldi of Pavia (*Receuil d'Ophthal.* April, 1883), in a well-considered essay on strychnine in atrophy of the optic nerve, points out that the improvement observed after the first few days of treatment is only transient, and that the administration of the remedy should be continued until toxic symptoms are perceptible. He prescribes powders containinig 0.03 grammes of St. Ignatius' bean, with injections subcutaneously of 0.001 grammes of strychnine, dissolved in two grammes of water.

Wyatt Wingrove (*Medical Press*, 1903) calls attention to the effect of smoking strong tobacco in producing deafness, and finds strychnine in full doses successful. Three cases were completely cured, in eight, nine, and twelve months, respectively, and nine showed marked improvement. It is necessary in these cases to abstain entirely from smoking, as there is always a relapse on resuming the habit.

In neuralgias, of various kinds, strychnine has often proved most useful, and especially where the pain is visceral, rather than superficial; in hepatalgia, for instance, and in the milder forms of angina pectoris, and in gastralgia. In the latter disease, with flatulence, and eructations, tincture of nux vomica has long been a favorite and fairly successful remedy, and may be well combined with antacids and carminatives, though there are intractable cases, or course, where this, like every other medicine, will fail.

In true angina pectoris it is of little value, and is much inferior to nitroglycerin and nitrite of amyl.

In all forms of neuralgia the dose of nux vomica, or of strychnine, should be small; of the latter there is seldom occasion to use more than one one-hundredth, or, at most, one thirty-second of a grain twice or three times a day. In pruritus it is said to be serviceable, and may fairly be tried in purely "nervous" cases.

In weak heart strychnine proves an excellent tonic, and is sometimes the first remedy which begins to do good in cases of fatty heart, when many others have been tried. One caution must, however, be added, namely, that any undue pushing of the remedy will produce, even more seriously than in other subjects, a state of nervous worry and restlessness, in which sleep is broken, or even destroyed by a tendency to perpetual muscular movement. To the subjects of fatty heart this condition is not merely fatiguing and annoying, but dangerous, and we are, therefore, bound to inquire for the first symptoms of its appearance when administering strychnine to such persons. It is of the utmost value in the failing heart of acute diseases, more especially, perhaps, in heart failure ensuing in the cases of lobar and broncho-pneumonia. Its utility in these cases is due to its power of (1) vasomotor stimulation, with accompanying rise of blood pressure, (2) of stimulating the heart muscle directly, and probably its peripheral inhibitory apparatus. To tide over heart failure, such as so often occurs in acute specific diseases, it is of the utmost value as a temporary measure, but as a continuous stimulant, except in the very smaller doses, it may defeat the object for which it was employed. In the treatment of cardiac dilatation nothing is more efficacious than complete rest in bed, but strychnine is useful, and it must be remembered that it is often more important to lessen the work of the heart than to increase it. In the failure of compensa-

tion in cardiac valvular disease the combination of strychnine and the tincture of digitalis often gives better results than either separately. Strychnine is probably one of the most powerful respiratory stimulants that we possess, and to this, no doubt, the good effect of its administration in pneumonic conditions is largely due.

In pneumonia strychnine is useful as a respiratory and vasomotor, as well as a cardiac stimulant. It is quicker in its action than digitalis, but the action is not so prolonged; the combination of the two drugs is often most valuable.

In dyspnea dependent on heart disease, or on chronic bronchitis, or emphysema, strychnine has been praised, and is sometimes useful.

It is to be recommended as facilitating expectoration in cases of chronic bronchitis.

In spasmodic asthma, and in coryza nux vomica and strychnine have often been used with much benefit. It is useful in bronchitis, where there is blocking of the respiratory passages with mucus, chiefly in the way of maintaining the coughing reflex. It is one of the most useful drugs to administer in emphysema. It has been recommended for the night sweats of phthisis, on the supposition that they are due to the imperfect æration of the blood during sleep.

In atony of the bladder, with incontinence or retention of urine, such as occurs in old people with enlarged prostate, strychnine is sometimes employed with much benefit, and the same treatment is applicable to the spermatorrhea of debility; when, however, the latter disorder, or incontinence, depends on irritability and excitation of the parts, the more usual treatment by bromides or belladonna is indicated; hence, this succeeds better if the disorders are nocturnal only, whilst strychnine is likely to suit if they occur in the day also, *i. e.*, are more persistent, and less spasmodic. In impotence, connected with relaxation of the genitals, it is effective.

Miscellaneous.—As a general tonic in convalescence from acute diseases it is of much value, and in maladies associated with mental depression it is of use, probably through a general influence, and not a special effect, of the brain.

There is no better medicinal means of combating conditions of collapse and shock than the hypodermic injection of strychnine, and it is given with good effect in full doses as a preventive of shock before surgical operations.

In the recent experiment of Crile on animals, in which varying degrees of shock were produced, strychnine caused a rise of blood pressure proportionate to the degree of shock. On repeating the injections, if the shock were deep, frequently no rise occurred. In the cases in which the shock was nearly to the fatal degree, only a slight rise occurred, and lasted but a few minutes, after which no amount of strychnine produced a rise.

In cases of collapse, in which, unlike those of shock, the vasomotor center was not exhausted, as from excessive hemorrhage, or asphyxia, in which the blood pressure had fallen to the level of the final breakdown from excessive doses of strychnine, therapeutic doses caused a marked rise in blood pressure.

The preparations of nux vomica may be prescribed without any special pharmaceutical precautions, but, in prescribing the salts of strychnine in solution, great care is required that nothing should be added that will precipitate the alkaloid, and thus cause a danger of a poisonous quantity being taken in one of the later doses of the mixture. Alkalies and carbonates must not be used for this reason; tannic acid precipitates an insoluble tannate, and bromides, iodides and chlorides form insoluble salts. Potassium bromide and strychnine are both pharmacologically and chemically antagonistic.

The bromides form with strychnine a bromide of strychnine, which is insoluble, and if given in a mixture gradually sinks to the bottom of the bottle in the form of fine crystals, the last dose for the most part, contains the whole of the strychnine, and many cases of poisoning have occurred from want of knowledge of this fact.

Enclosed find one dollar for the MEDICAL BRIEF, for I can not do without the good old BRIEF.—WM. L. DOWLER, M. D., Wheeling, W. Va.

[Written for the MEDICAL BRIEF.]

How to Determine the Strength of a Spectacle Lens.

BY E. LUCAS HUGHES, L. R. C. P. (LOND.), M. R. C. S. (ENG.).

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Every physician ought to possess a box of trial lenses and know how to use them. He ought to have one or two Snellon's type cards hanging on his office wall. If the office is too small for the orthodox six meters, the best plan is to virtually double it by means of reversed types and a mirror. The types being near the doctor, he can change them and point to individual letters and lines without having to cross the room, the patient looking at the reflexion of them in the mirror. Every medical man ought to warn his patients against quack opticians, who test eyes gratuitously to sell spectacles expensively —very expensively, indeed, when the eyes are seriously injured by it, as is often the case.

Besides knowing how to do simple refraction work, there are one or two important points with regard to spectacles

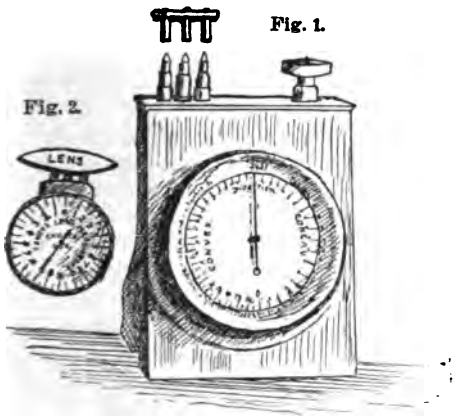

Fig. 1. Zoll's Lens Measurer. (Size of Alarm Clock).

Fig. 2. Geneva Lens Measure. (Size of large watch). A lens is shown being measured.

themselves that a physician should know, and one of the most important is how to determine the exact strength of any pair of spectacles his patient may have been wearing. This is not only very useful for note taking, but it enables him to verify his own prescription after his patient has been to the optician, thus establishing a check upon the optician employed, and rendering mistakes impossible.

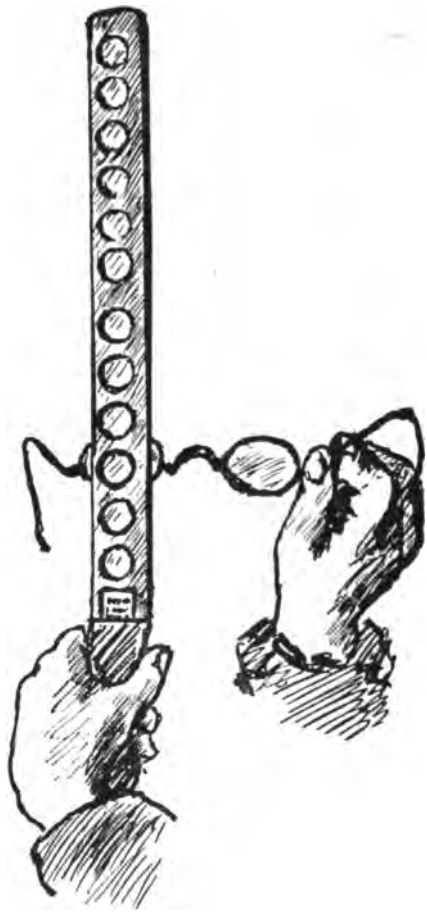

Fig. 3. A quick way of finding spherical glass by means of the Skioscopic rack or "lens stick."

It frequently happens in eye practice that spectacles have to be measured, and specialists employ expensive instruments, which do this quickly and accurately. The patient has lost his previous prescription, and he comes back with his glasses cracked or broken, and by fastening the pieces of broken lens together it, perhaps, may be possible to measure its surfaces. The instruments best known are the Geneva lens measurer, which looks like a watch; the Zoll measurer, something like a small clock, and the focometer or phakometer, of Badal. Professor Badal's focometer is an ingenious arrangement, look-

ing something like a telescope. It is worked by means of the focal length of a large lens fixed inside. They are convenient for the office of the specialist; they save time, but they cost money. The skiascopic racks, so useful in working out the refraction of children, are not very expensive, and are excellent instruments for quickly finding the strength of simple spherical glasses, but the difficulty comes in when the spectacle lens, on one or both sides, is obviously a compound one—a combination of sphere and cylinder—for the correction of compound or mixed astigmatism. If your patient is, say, a myope, wearing perhaps a —3 sphere on both sides, the + skiascope rack will be seen to neutralize it when you have moved it to +3 lens. This is a simple matter, but supposing instead of this he has —2 spherical combined —1 cylinder, say in an oblique axis, for instance, 60° down and out in one eye, and in the horizontal in the other eye. Of course, every good trial case has — and + cylinders up to 6 diopters, and if you possess this and adopt the simple method I am about to explain, you will be all right.

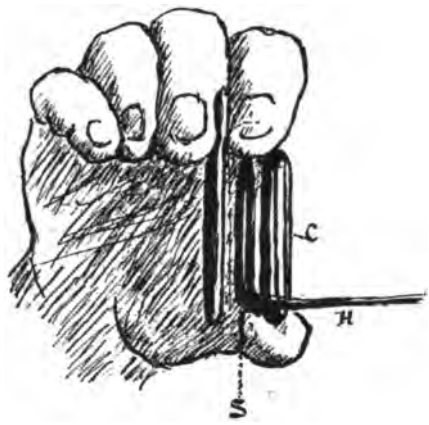

Fig. 4. Thumb and finger viewed sideways holding the lenses in position.
c—Cylinder lens held vertically.
s—Spectacle lens in between.
h—Side of spectacle frame used as a handle by which the spectacle lens is rotated.

Before starting the examination you may get some idea of what lenses you may have to take out of your box by feeling the surfaces of the spectacles with your fingers. Supposing you feel the surface, finding it somewhat concave, you know you must take up convex lenses, the exact opposite; your feeling may suggest a concavity of —2, you take up +2, and you find that objects still look small; you change to +2.5, still small; then +3, and suposing it is a —3 spherical lens, you have got the required neutralization almost as quickly as if you had used the skiascopic rack. Objects do not move and they look the right size, not larger nor smaller, exactly as if your two lenses together were a piece of plain glass, or as if you were looking through a window pane.

Part of the examination consists in moving the two lenses about, one fixed behind the other; it rests upon the theory of prismatic parallactic displacement, that is to say, when one looks at an object through the center, even of a spherical lens, the image of that object shows the exact position, but if one moves the lens to the right, or to the left, above or below, one is then looking through a prism, and there is the displacement of the image ac-

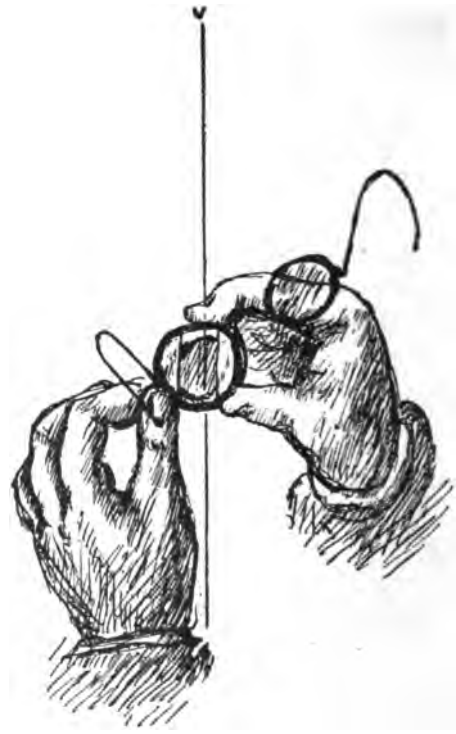

Fig. 5. Oblique axis down and out.
Spectacle frame tilted upwards rests against forefinger of hand holding the lenses. The vertical line represents the perpendicular edge of any distant object.

cordingly, the image being displaced in an opposite direction for a convex glass, and in the same direction for a concave. Supposing, for instance, you are neutralizing a concave spectacle with your convex glasses, but you have not yet got up to the

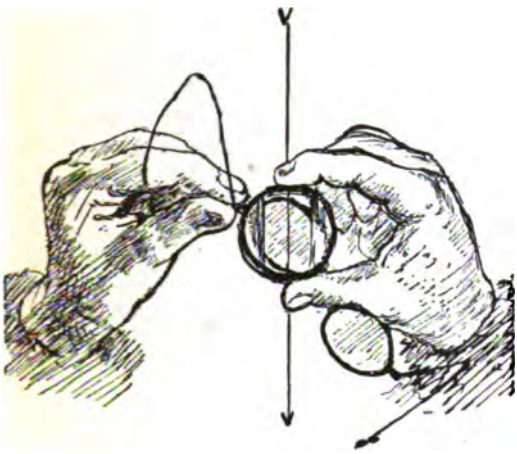

Fig. 6. Oblique axis, down and in. Spectacle frame slants downwards and rests in front of and below thumb of the hand holding the lenses.

one which neutralizes it completely. Your spectacle is still concave, although a convex lens is in front of it, to that amount which remains unneutralized, this making the movement in the same direction upward and downward, to the right and to the left, according as you move the combination, and corresponding to the amount of concavity uncorrected, but supposing another + lens from your case causes a movement in the opposite direction, then you know at once you have gone beyond the mark; go back a little and you will find no movement at all, as if you were looking through a window pane. This is the strength of your spherical glass, and if a simple sphere your object is attained.

But supposing you are examining a compound lens, and only one meridian has been neutralized in this way, the other at right angles shows movement, and objects appear drawn out in one direction more than in the other. Now, you go to work with your cylinders in the same way, holding the spherical lens, that you have found neutralizes the one meridian, in front of your spectacle lens, and the cylinder you pick up you hold behind it, both of them between the finger and thumb of the right hand, if examining the left spectacle lens, and the left hand if examining the right one. You have a firm grip of your trial lenses and you look through all the three at your distant objects, say, the smaller letters of your test types. If axis of spectacle lens under examination is oblique there will be seen a starting appearance of the type card; with the other hand you rotate your spectacle frame, using the

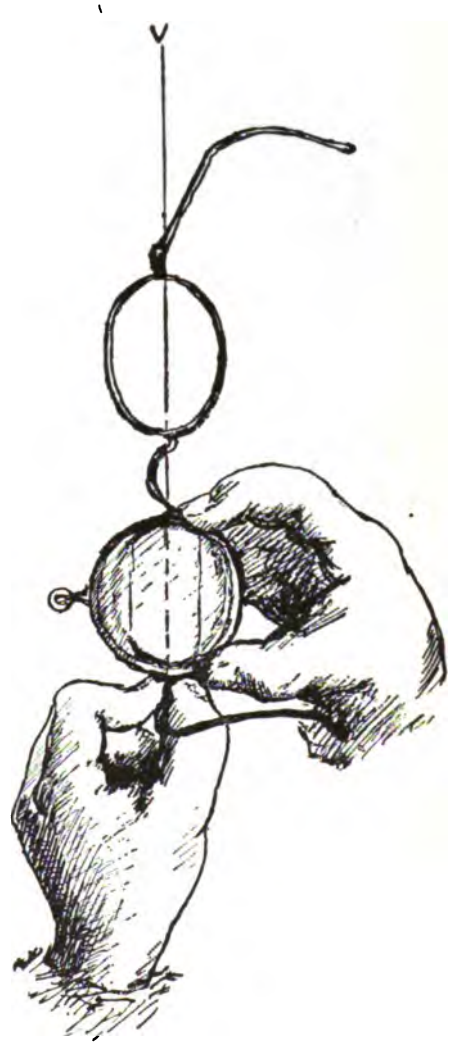

Fig. 7. Finding that the axis of spectacle lens is horizontal.

side of the frame, usually found to be so awkwardly in the way, as a sort of handle. A little easy manipulation of the frame and hands is all that is required, care being taken to maintain the axis of your cylinder trial lens always in the vertical

direction. A line across the room with your cylinder forms your "axis finder," the edge of a door, wall, or any perfectly vertical edge that you know you can trust. Maddox has invented an ingenious axis finder for this and other purposes, but a

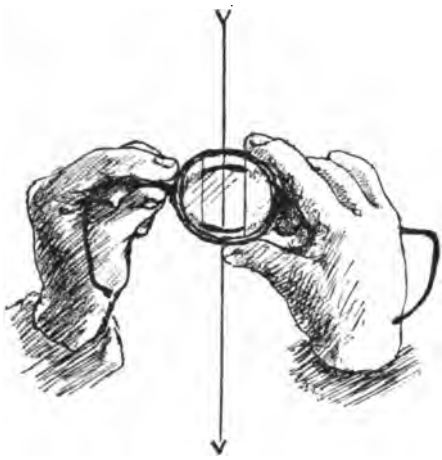

Fig. 8. Finding that the axis is vertical. The spectacles are in front of the hand holding the lenses.

vertical line of your consulting room wall answers the purpose quite well. If your cylinder is too weak you change it until you find the right one, by the process of neutralization above described. Having found your axis, and carefully maintaining the relationship by means of a firm grip of the lenses, lay them upon an opticians' card, over the angle-marked diagram, and read off the number of the angle.

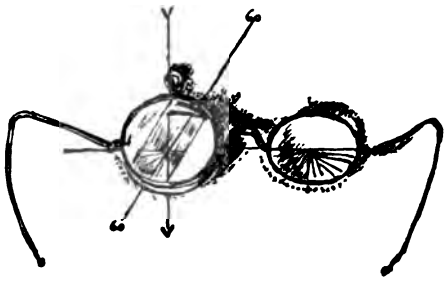

Fig. 9. The spectacles carefully laid over optician's diagram, the axis of cylinder will point to the angle required. Any axis can be found in this way whether vertical, oblique, or horizontal.

It is well to remember that when feeling the surfaces of a compound lens the surfaces are of double strength, owing to the optician only having one surface for his sphere, and one for grinding his cylinder. The usual way, I believe, is that of rotating the cylinder, cylinders and spheres taken up from the box being held close together. In this way they often slip from the fingers.

The method above suggested, the chief point of which is that of using cylinder and vertical line as an axis finder, moving only the spectacle frame, is, I maintain, far less awkward, more rapid, and very much more likely to be accurate.

[Written for the MEDICAL BRIEF.]

Headaches.

BY JOSEPH BENSON MARVIN, B. S., M. D., LL.D.,

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Headache depends upon organic changes in the brain, as tumor abscess, meningeal changes, reflex conditions about the nose and eyes, or it may depend upon disturbances of the stomach and intestinal tract. Headache is part and parcel of the infectious fevers; one of the phenomena dependent upon the circulation of certain poisons self-generated; Bright's disease, syphilis and malaria, etc.

But there is another form of headache, it belongs to a separate class—I refer to migraine. An atrocious form of headache, possibly the worst of all, except those depending upon tumor or gross lesions of the brain.

This form of headache occurs early in life, we frequently find it in children, young boys and girls, it is more or less periodic in character; unilateral, in the eye, temple, entire half of the head, or may extend all over the head. This headache, with certain accompanying phenomena, may last, as a rule, for two or three days. Nausea, vomiting and gastric distress, which are part of this condition, account for the common name of bilious or sick headache.

We do not know the cause. There seems to be some kindred association with epilepsy. I see individuals every now and then, with alternate attacks of migraine and epilepsy. But many cases of epilepsy never have migraine,

and *vice versa*. Sometimes we see it associated with high tension pulse and degenerative changes in the arteries, but a great many cases of arterio-sclerosis never have headache. We do not know its pathology, but we do know its symptoms. In my experience I have noticed it more frequently in women than in men and in people of dark complexion, the so-called bilious temperament. And most frequently I have seen it get better as the patient reached the climacteric, after suffering atrociously for ten, fifteen or twenty years. Hope long deferred maketh the heart sick, and it is not very comforting to the patient to be told to keep up hope until he is forty-five or fifty and the headache will disappear.

Symptoms.—Many patients know two or three days in advance of the coming of these attacks, certain phenomena of the eye that suggest epilepsy. The patient may have double vision, see colors, as blue, red, green, lines or zigzag figures; see light or only half a portion of an object; one-half of a name, word or letter. This may be associated with temporary aphasia and hesitation in speech, queer sensations about the head and optic nerve. Following this headache on one side, increasing in intensity and spreading over the head, there is nausea, afterwards retching and hyperesthesia.

Some authorities divide this headache into two kinds. One in which the pulse is quick, soft and feeble, with skin cold and patient blue; the other where patient is flushed and arteries throbbing. Both of these phenomena are dependent upon vaso-motor disturbances.

Diagnosis.—Diagnosis is easy and it behooves us to make it as early as possible. All cases of headache should not be called migraine, they are not worthy of the name. Migraine, as a rule, begins early in life, it recurs, it is severe. The periodicity may suggest malaria. It is also necessary to remember that migraine attacks older persons also. It may be dependent upon organic changes in the brain and it may be a simple neurosis. In the intervals of the attack the patient generally feels well, but excessive work, worry or imprudence in diet may bring about the headache.

Prognosis.—Prognosis in these cases, so far as life is concerned, is good. So far as cure is concerned not so good. In this disease much has been made of the uric acid diathesis. Uric acid has been the too ready scapegoat for our ignorance. I do not take much stock in the so-called uric acid diathesis. There may be retained products in the circulation which Nature intends us to get rid of, much like shaking the ashes out of the grate of a stove. If these products are retained in the body we have various phenomena, as fever, headache, etc., but if we allow the uric acid idea to sway our mind and see nothing else, it may be embarrassing when we find no uric acid present to explain the phenomena.

Treatment.—The headache that is part and parcel of a fever is easy to treat. The treatment of a headache dependent upon brain tumor is radically different from that of migraine. The headache may be diagnosed as malarial. Malaria is a very capacious cloak and may cover a multitude of sins. If the patient has been exposed to the malaria-bearing mosquito we may have some license to diagnose the headache as malarial. Remembering that malarial headache is very likely to occur about the eye and the branches of the third nerve, to come on in the morning and disappear at night. Quinine will be the best remedy for the malarial headache, and they will persist in spite of all anodynes, until under the influence of malarial remedies. They occur every day, or every other day, and will yield to the quinine and iron treatment.

When a man complains of headache atrocious in character, at night, persistent and continuous, it is well to search for a specific history. No matter how remote it may be. Make your diagnosis, therefore, and pursue your treatment; rapidly increasing the doses of the iodides. I have frequently run up to one hundred grains of the iodide of potassium before I controlled this form of headache and saved the patients' lives. If the headache is of the specific character, the iodide of potassium is almost a specific remedy. It must, of course, be given with judgment, as the size of the dose depends entirely upon the patient.

No doubt the ordinary little headaches we commonly meet are largely due to constipation, auto-infection, imprudence in eating, drinking—self-generated poisons. The first step is to clean out the colon and bowels and rest the alimentary tract. The usual dose of calomel or other laxative will have to be doubled, or trebled, in these cases. Headaches dependent upon constipation will be accompanied by clammy sensations of the skin and other evidence of auto-infection. Here it is useless to waste time with the coal-tar preparations and use of the hypodermic syringe when the attendant train of ills will disappear under proper management of the diet, and attention to the bowels and other functions. It is a common custom nowadays for people to treat their headaches by headache powders. The very large number of men and women who eat improperly, live improperly, and who dose themselves with headache powders, is on the increase. And sometimes these remedies work like magic, until some drop dead—the heart has failed. We are getting to be a race of weak-hearted people.

When I am sent for to treat a headache I usually ask, "What headache remedy have you been taking?" And far too often there is a drug habit to be broken up. On the other hand, it would be a very foolish doctor who would eliminate all these preparations from his *materia medica;* in fact, he can not get along without them, but let them be given always upon a doctor's prescription.

Sometimes the suffering is so intense that morphine is indicated. The number of men and women, doctors and laymen, that have headaches and have resorted to morphine is appalling. The surcease from sorrow is so certain, so rapid, and the pleasure so sweet, that they cry for the remedy again. If the cry is heeded, you will hear it very often, and the next thing they are slaves. I have often thought, and occasionally I have practiced it, that it would be a very valuable thing if every doctor, especially the younger doctor, would combine a little apomorphia with his morphine, and that he would take a little of the dose himself. It is a good thing in some of these cases where morphia makes the patient ill for two or three days—that may be his salvation. They dread the sickness so much that they will not call for the morphia. Codeine is less likely to cause the drug habit, but is less certain than morphia. There are cases, of course, where it would be the height of cruelty to withhold morphine.

Another point of importance: The medical profession has much to answer for, although the doctor may be overworked, underpaid, unable to see his patient as often as he would like, so he leaves his hypodermic syringe with the trained nurse and she uses it. This should never be done. In my opinion it is a great mistake to ever allow your trained nurse to have a hypodermic syringe or to administer opiates.

In the treatment of migraine there are several remedies that I use. I have a case on hand now which is worrying me not a little. A two-drop dose of tincture of belladonna and two or three drops of tincture of gelsemium, repeated every two hours, is most effective. Sometimes I run the dose up to its physiological effect. Gelsemium is a capital remedy and may be given until you get drooping of the upper lid and dilatation of the pupil. These two agents, with hot applications (unless the patient prefers cold applications) to the head, hot footbath, abstinence from food, will tide the patient over the attack. If the patient is in a debilitated condition give one grain each of the valerianates of zinc, iron and quinine, and one-quarter grain of the extract of cannabis indica. Occasionally, instead of belladonna and gelsemium, I give caffein. Some of these patients say a good cup of strong coffee will make them feel better. I sometimes give as much as five grains at a dose of caffein. Caffein is a cardiac stimulant and a capital diuretic, but if continued too long the patient will see visions and dream dreams. The patient should rest in a darkened room, be kept free from worry, abstain from food, hot applications should be made to the head and these remedies used. For vomiting and sick stomach a little alkali is indicated, then a mustard plaster placed over the stomach (though not in every case). No patient will suffer any ill-effects by ab-

staining from food for twenty-four hours, but if nausea and retching continue the patient may become so sick and disgusted that the very odor of food is repulsive, and he may starve too long. In these cases a little food, as beef jelly, chicken jelly (hot or cold, as the patient prefers); a clear soup may be given and is a great deal better than a stimulant like champagne.

There is another agent which served me very well. Some might claim that that is an evidence in favor of the uric acid diathesis. I refer to salicylate of soda. In these cases of recurring headaches, short of genuine migraine attacks, I sometimes give salicylate of soda, ten-grain dose, repeated three or four times a day, with very good results. Sometimes sulphate of soda, sulphate of magnesia, salicylate of soda, put up in effervescing form, given once or twice a day with plenty of water, causes a decided improvement in the headaches. Salicylate of soda is a greater stimulant than calomel, or the mercurials, when the liver is sluggish.

There is another form of headache, in the back of the neck, between the shoulders; present when the patient gets up in the morning and grows worse during the day. This is neurasthenic headache, headache of nerve tire. Light cauterization over the cilio-spinal center, with the actual cautery, will reduce the severity of these headaches. The patient must be gotten away from business cares and worries, and prescription of the triple valerianates is indicated.

It is possible that you may be called to treat a headache which will resist all the forms of treatment mentioned, and many more besides. After you have run the gamut of treatment, you may examine the nose of the patient and find a polypus; perhaps a bony spur, which is removed, and the headache stops. You have wasted time, you have put the patient to expense and insulted his stomach with drugs, when an examination of his nose would have demonstrated the cause of the trouble.

In another instance you may be confounded and accused of want of progress. The patient whom you have been treating has gone to a spectacle fitter, and he has put on a pair of glasses, and the headaches have rolled away like mists before the sun.

Make your diagnosis carefully. Examine the eyes, the nose, and the throat, and be certain of non-existing reflex conditions.

903 Fourth Avenue.

[Written for the MEDICAL BRIEF.]

Post-Partum Hemorrhage.

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Post-partum hemorrhage is variously defined as a hemorrhage within a short time after or within the next twenty-four hours after labor; the hemorrhage after that time being defined as a secondary hemorrhage. The most frequent cause of the condition is the retention of portions of the placenta or a partially separated placenta, although at times atony of the uterus may also account for the condition. Atony under those circumstances is most frequently due to hydramnios or to the extreme distention of the uterus by a twin or multiple pregnancy. It may also be due to general relaxation after a prolonged labor.

It is one of the most appalling conditions met with in obstetrics, as the amount of blood lost is so enormous as to exsanguinate the patient. Improper conduct of the placental stage of labor is most generally responsible for the condition, too great haste to conclude the tedious process of the ordinary labor by a rapid expression of the afterbirth, by improper expedients, as pulling upon the umbilical cord, or the too early use of the Credé method of expulsion, are accountable for this accident. It should be remembered that Credé before his death advocated a wait of thirty minutes before resorting to his well-known method of placental expression.

In connection with the symptoms mentioned in most text-books, such as rapidity of the pulse, disturbed vision, pallor of the countenance, I have found yawning one of the surest signs of impending dan-

ger, and one that should put the attending physician in a labor case on his guard at once. The physician, of course, should aim to prevent the condition by caring properly for the second stage of labor, awaiting the proper time for the expulsion of the placenta, examining the placenta carefully, and especially to see whether a placenta succenturiate is present. This is an accessory lobe of the placenta that occurs under some circumstances when apparently the entire placenta has been expelled.

Ergot is still used after labor by the majority of physicians, but is unnecessary in a well-conducted case, and a single dose will not prevent *post-partum* hemorrhage in one carelessly conducted. If it is needed in this condition at all it must be used more frequently and hypodermically.

As to the treatment of the condition itself every physician should have at his fingers' ends the definite principles for the control of such a hemorrhage when it occurs. More lives can be saved and better results obtained from following clearly-defined principles than by resorting haphazard to the many expedients recommended for this condition. Let the means used be absolutely definite, as in the control of hemorrhage elsewhere, and with due attention to asepsis, for it is the height of folly to save a woman from a *post-partum* hemorrhage only to inflict upon her an equally dangerous condition, puerperal infection. In consequence of lack of proper preparation most physicians will be caught off their guard, when a *post-partum* hemorrhage occurs, when by making a few preparations beforehand, such an accident can at once be met promptly when it occurs. A clean fountain syringe, a half gallon of normal saline solution, a package of sterile gauze, practically complete the whole armamentarium, and if the patient has been prepared properly for labor, and the physician's hands are clean, he is at once ready for the measures to be recommended.

Under all circumstances the uterus should be emptied at once, and with the relaxed condition of the abdominal walls after the expulsion of the child it should not be difficult to grasp it at once, knead and push it firmly down into the pelvis, and then forward against the symphysis pubis, expressing its contents at the same time. Only rarely will it be necessary to resort to manual removal of the placental material; if this manipulation is properly conducted it will in many instances check the hemorrhage, and nothing further than a hypodermic injection of an aseptic preparation of ergot will be needed. The ergot should be injected deeply into the muscles of the thigh to prevent the formation of an abscess. When these means do not suffice then an intelligent member of the family can be instructed to hold the uterus in the position in which it has been fixed by the physician, while he quickly cleanses his hands and introduces a hot normal saline solution into the uterus. Then finally as an absolute means of controlling the hemorrhage, should it not have yielded to these means, the uterus should be packed with sterile gauze. The patient should be quickly brought to the side of the bed and in the dorso-sacral position; a change to a lateral or Sims' position is not advisable, as it interferes with holding the uterus in a proper position and, besides, might allow air to enter the vagina, with a possible sudden death of the patient from an air embolism. A clean towel is laid against the vulva, the sterile gauze upon this and with a Sims' speculum and dressing forceps the gauze is packed firmly into the cavity of the uterus. In the absence of proper instruments the left hand may be introduced into the vagina up to the cervix, and the gauze effectively packed into the uterine cavity, without the aid of instruments.

The elevation of the foot of the bed and the introduction into the rectum of one-half gallon normal saline solution, with the addition of one-half pint of hot coffee, will practically conclude the means to be used, even in extreme cases. The uterine tampon may generally be removed in six hours and should again be followed by a hot, copious intrauterine douche of normal saline solution. Hypodermics of strychnine should then be administered at proper intervals.

When the patient has rallied from the effect of the hemorrhage the foot of the bed may be lowered gradually to prevent

syncope, which would follow if the bed were lowered at once. In the conduct of the puerperium special precautions must be used as to asepsis, as a patient is more liable to infection after hemorrhage, in consequence of the lowered vitality.

713 Second Street.

[Written for the MEDICAL BRIEF.]

Modern Methods in the Management of Typhoid Fever.

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In presenting this subject I do not flatter myself that I can give anything distinctly new or original, but I am led to this selection by the hope that I might more forcibly call attention to some fallacies that have existed, and still exist, in the minds of our brethren.

One of these fallacies is that typhoid fever is a "let-it-run course" disease—an infectious disease of a self-limiting character. There is not, nor has there ever been, a phrase in medical nomenclature that has been as hurtful and misleading and discouraging to the young graduate, as well as to the older physician and his patients, as the thought conveyed by the term "self-limiting." It carries with it the idea that the *vis medicatrix naturæ* is the only factor in a case. Self-limiting diseases are never diseases in which a physician should sit idly by with hands folded and wise countenance, and much complacent grunting, and let the various stages pass before his vision in orthodox succession; and if perchance the patient has sufficient strength and vitality to carry him through the rugged waters of infection, intoxication, ulceration, wasting, lowered vitality, etc., the physician, with much glee and much more self-adulation, exhibits the wasted and weakened unfortunate as a proof of his wonderful skill in pulling so severe and difficult a case back to life—not always to health. The fact is, the patient lives as a monument to his inherent vitality—as well as a demonstration of the ignorance and malpractice of his medical adviser.

While the anatomical changes in the intestines, as a rule, when left to Nature alone, are represented by four stages (1), the stage of infiltration or hyperplasia; (2) the stage of necrosis; (3) the stage of ulceration; (4) the stage of cicatrization, I must insist that these stages of pathological process, together with gastro-intestinal catarrh, marked prostration, rapid wasting, marked nervous symptoms, enlargement and infiltration of mesenteric glands and spleen, parenchymatous degeneration of the other viscera, are not necessary for a case of typhoid fever. We have a frequent demonstration of this fact in the typhoid fever of early childhood, in which the disease runs its course without the appearance of the third and fourth stages, viz.: that of ulceration and cicatrization. Also in numbers of cases that begin with typical manifestations, with very positive subjective and objective symptoms of the disease, and yet with but little if any treatment we find convalescence well established by the end of the second week, Nature having done what we oftentimes fail to do, yet should strive to do, viz.: cut short some of many of these various pathological processes. The duty of the physician is to hold in check and prevent these pathological changes as much as possible, and the possibilities along this line are much more than the majority of physicians are willing to admit.

How can we best combat the rapid elaboration of the toxic principles, lessen these pathological changes, prevent this rapid wasting and exhaustion, and bring our cases to a speedier and better recovery? This can best be answered by a hasty review of the more modern and rational methods of general management and treatment. I shall only mention the things wherein I differ from the old orthodox methods that formerly taught and practiced to the injury of the patient.

Diet.—First, let me advance this dictum, that possibly more patients are lost by under-feeding, which increases asthenia and prolongs convalescence, than by sensible rational over-feeding. Until the profession gets away from the old idea that milk holds the first place—practically the anchor-sheet in typhoid feeding—it will continue to lose patients

as before, and typhoid will continue to be the great stigma to the profession that it has been in the past.

"The theory upon which a strictly milk diet is followed in typhoid fever is based upon the assumption that solid food irritates the intestine, and passing over the ulcerated surface of the bowel may lead to hemorrhage or perforation. For many years this view has been prominently expressed, and many practitioners, even at the present time, would as soon administer a deadly drug to the patient as to give him the smallest quantity of solid food. A moment's thought will convince one that the administration of whole milk is in effect the giving of solid food. As soon as it reaches the stomach the casein is coagulated, and it requires a digestive process quite as vigorous as that necessitated by many soft albuminous substances," besides furnishing the finest culture medium for the continued proliferation for all forms of bacteria, as well as favoring butyric fermentation and poisoning. Any physician with abundant clinical experience in typhoid will agree that the early stuffing with milk or other food in the beginning of typhoid is unwise.

I will not further discuss the theoretical reasons why sweet milk is not a suitable diet. I have discarded it almost entirely from my diet list. I am, however, very fond of buttermilk, and am delighted when we can get our patients to take as much as one quart per day. It is easily digested; it assists in overcoming kidney incompetency; helps the kidneys eliminate the toxines, both typhoid and intestinal, which play such an important role in the pathogenesis of this disease, as well as the effete and toxic tissue metabolisms. Nor does it furnish any pabulum for the bacillus typhosus, as does sweet milk, which, in the majority of cases, is seen by the increase of the toxemia. In addition to buttermilk, I am not content unless I get each patient to take from four to eight raw eggs per day. A fresh raw egg furnishes the system everything needed for its nutrition and sustenance. It is a simple matter to induce your patients to take the raw eggs. The numerous ways in which an egg can be made palatable and attractive to the fastidious palate makes it a comparatively easy matter to give the raw eggs. In conjunction with the raw eggs, to insure the digestion of the albuminoids, as in all catarrhal conditions of the stomach there is an absence of HCl, I always give five to fifteen drops of the dilute HCl in water after eating the eggs, thus giving the acid from four to six times a day in as many glasses of water.

In addition to these I give my patients all the good nutritious soups I can get them to take, as a physician should not only know them all, but also how to prepare them. Of these soups we have a great number. A knowledge of the culinary art is to me as important as a knowledge of therapeutics. The ignorance along this line of both the laity and the profession is appalling.

Again, the diet can be enlarged by the preparations of the various custards, fruit jellies and gelatins. In addition, if I find nutrition is still lagging, I employ the various liquid foods, such as liquid beef peptonoids, the predigested foods, etc. If in this forced feeding you find the patient is not digesting it well, cut it out for a few days and then begin again.

Intestinal Antiseptics.—While we are with our present knowledge absolutely unable to reach and destroy the bacilli and counteract their toxins in the tissues, we can and should, throughout the whole course of the disease, relieve and destroy all the intestinal toxemia possible. You can, by proper treatment, bring this to a minimum, as well as lessen the gastro-intestinal catarrh. Why should we not treat this catarrhal condition which plays such an important role and factor in the nutrition of our patients? We should not overlook the fact that in typhoid we have one of the most pronounced illustrations of bacilluria and toxic urine; hence, the routine use of urinary antiseptics is indicated. For stomachic antisepsis we rely upon sterile food and drink and HCl.

Purgatives.—We were taught that it was bad practice, culpable in the extreme, to give purgatives in typhoid. We were instructed to content ourselves with a simple flushing-out of the rectum. Woodbridge, in his enthusiasm for a specific treatment for this disease, has shown us

that you can purge your patient at any stage of the disease not only without hurt but with benefit. In fact, the cardinal principle in the treatment of typhoid fever is to keep the bowels open. I never hesitate at any stage of the disease to give either broken doses of calomel, seidlitz powder, citrate of magnesia, or rochelle salts, preferably in lemon water. While it is ever best to use the bed-pan constantly, especially in rapid pulse and threatened cardiac asthenia, yet we occasionally find a patient with whom it is impossible to use the bed-pan. In such cases it is less hurtful to the patient to have him carefully lifted out upon a commode.

Antipyretics.—While we all admit that the very best way of reducing temperature is by the cold bath, either after the method of Ziemssen or the more rigid method of Brand, yet so many obstacles are to be overcome in the daily application of these methods in our private practices that they are made impracticable. How impossible it would be to attempt such things in our great typhoid element! A portable tub, three or four intelligent attendants, constant watchfulness and educated nursing are all necessary. We must rely upon oftentimes unintelligent cold sponging or the scientific application of the cold pack or the "puddle bath." It has been my experience to find in certain cases you can get just as good if not better results by the use of the hot pack. This is oftentimes more grateful to the patient than the application of the cold, and with the more rapid evaporation from the surface we get as much refrigeration.

As to the use of internal antipyretics I occasionally have my private cases to use them, always most carefully. They often have a most beautiful and satisfactory influence in reducing temperature, calming the nervous system and thereby strengthening the heart, besides possessing some antiseptic powers. It is true that they do, in large doses, and even in some susceptible patients in small doses, depress the heart. This, however, can be avoided by proper counter-stimulants, such as strychnine, alcohol and digitalis.

One thing which physicians so often overlook, that is, the necessity of insisting upon all typhoid fever patients drinking large quantities of good, pure, sterile water. This is a rule that is sometimes overlooked, not only in this disease, but in all infectious diseases. The water lessens emaciation, promotes diaphoresis and diuresis, etc. In typhoid, particularly where the kidneys play such an important role in the elimination of the toxins, both typhoid and intestinal, large quantities of water are especially indicated.

Allow me to mention just two of the complications of this disease that are not infrequently met with, viz.: hemorrhage and cardiac asthenia. Hemorrhage from the bowels occurs in from three to five per cent of our cases, varying from a slight oozing to large and frequent bloody stools. This symptom is best met by absolute quiet and rest, withdrawing all food for ten to twenty-four hours; hypodermic injections of morphine, antiseptic ergot, etc., cold to the abdominal surfaces, salt solution, either normal or stronger; ice-water enemata, etc. Cardiac asthenia demands alcohol, strychnine, etc., in full physiological doses; elevate the foot of the bed and secure to the patient absolute quiet and rest. Digitalis is a drug from which you get little effect after granular or fatty changes have taken place in the cardiac wall. If you rely upon digitalis after this condition is present, you will be very much disappointed in the use of the drug.

Of course all these measures and suggestions are best carried out by skilled and trained nurses, and when so much depends upon the feeding, the sponging, the constant and intelligent care necessary in these cases, we can not overestimate the value of trained nurses.

This is too large a subject to cover in one short paper. I have endeavored to call attention to a few of the more modern and rational ideas. Let me say this, in conclusion, that a routine treatment and course in every case of typhoid, just because it has been the custom from time immemorial to do so, is most culpable. Do not trust too much to Nature or the *vis medicatrix naturæ*, but, knowing your pathology from stem to stern, use your own good reasoning powers and treat each case from a rational standpoint.

300 Broadway.

[Written for the MEDICAL BRIEF.]

Early Diagnosis of Small-Pox.

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There are so many varieties of small-pox, each presenting itself in a different form, particularly in the early stages, that diagnosis is often difficult. This is particularly true in making an early diagnosis in the varieties ranging from malignant or confluent to the varioloid types. In any type of small-pox the early symptoms are headache, backache, and even in the mildest cases there is usually a high temperature. In the confluent type the eruption is very profuse, covering the whole body, the palms of the hands, the soles of the feet—no part of the body is exempt. The eruption appears on the mucous membranes of mouth and sometimes under the nails, and on the conjunctiva. In the severe cases of the confluent type, the temperature remains high through the course and seldom approaches normal until the end of the disease.

The period of incubation rarely varies. It is not unusual for a person to come in contact with small-pox and yet not be properly exposed, but in cases where there has been a true exposure the eruption will appear in about twelve days. I believe that the stage of incubation in small-pox never varies over one or two days, in contradistinction to the stage of incubation in chicken-pox, which in the latter is from eighteen to twenty days.

The eruption appears from four to five days after the high temperature, headache, backache and general pain throughout the body. It is at first noticeable upon the face and on the side of the wrists. This type is of the papillar, "shotty" appearing elevation, which in turn becomes vesicular, passing on to the pustular form.

When the type of small-pox is severe there is no likelihood of confusing it with any other disease. In the discrete and varioloid forms there is more difficulty in making diagnosis.

The eruption of small-pox can be differentiated from that of chicken-pox, first, by the character of the eruption, and second, by the difference in location. In chicken-pox the eruption is under the scarf skin, but in small-pox it is situated under the true skin and as the disease progresses fill and remain full, while the eruption is well distributed over the entire body. The eruption of chicken-pox rarely appears on the palms and soles.

In small-pox eruption on the mucous membrane of the mouth will be preceded by complaint on the part of the patient of soreness of the throat, which disappears as the eruption increases over the body.

In cases of varioloid or the very lightest forms of small-pox there may not be over half a dozen or dozen pustules on the body, but these pustules will be full. It is this form which is most frequently confused with chicken-pox. The temperature is not so high in chicken-pox and the duration of the eruption is much shorter.

In differentiating small-pox from syphilitic eruptions the prodromal symptoms are lacking, usually there is no fever or acute systemic infection.

609 Chestnut St.

[Written for the MEDICAL BRIEF.]

Metastasis in Carcinoma.

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The three propositions which I wish to present in the following paper, are:

1. Metastasis occurs in carcinoma much earlier than most physicians think.

2. The operative treatment of carcinoma will meet with success in exact inverse proportion to the degree of metastatic extension.

3. Most cases come to operation after metastasis has occurred, and the burden of responsibility must rest largely upon the family physician.

A tumor is a typical formation of new tissue which results from lawless cellular proliferation, and which subserves no useful purpose to the body. This proliferative activity must not be the result of inflammation.

Tumors are classified differently by different writers, yet the time-honored classification of the pathologist seems to me to be the most satisfactory. This classification is based upon the histologic structure of the tumor, and the general or accurate resemblance which this structure bears to the tissue from which it springs. Thus, we have the chondroma, or cartilage tumor; the fibroma, or fibrous tissue tumor; the lipoma, or fatty tumor; the myoma, or muscle tumor; the angioma, or vessel tumor; the adenoma, or gland tumor; the epithelioma, or epithelial tumor.

Clinicians have divided tumors into two broad classes, the *benign and the malignant.*

A malignant tumor is one which:

1. Invades the surrounding tissues by infiltration.
2. One which recurs on removal.
3. One in which secondary tumors, known as metastases, occur in more or less remote tissues of the body.
4. One which, after a time, produces a disturbance in the nutrition of the individual an anemia, which has been termed cachexia.

A benign tumor is one which does not possess these characteristics.

Now, it will require but the minimum pathologic reasoning and a minimum surgical experience to convince any physician that this clinical division of tumors into benign and malignant is entirely useless, from a practical point of view.

Each of the clinical evidences of malignancy given above, the invasion of surrounding tissues, recurrence on removal, metastasis and cachexia, are very late, indeed almost terminal symptoms of the disease, and should we wait for the manifestation of any one of these symptoms for the diagnosis of malignant tumor *we wait until all chance of cure has passed.*

Operative experience has demonstrated this point beyond a doubt. We all know how certainly a cancer of the breast will recur when it has become adherent to the chest wall before operation. We all feel certain that one recurrence after the removal means further recurrence and, perhaps, later, inoperable recurrence. The involvement of adjacent lymph nodes renders the operative results very uncertain, and cachexia is usually a contraindication to operation. We are, therefore, forced to the conclusion that this clinical division of tumors into benign and malignant, which is supposed to aid the clinician, is, therapeutically, entirely useless.

These two words are extremely valuable, however, as explaining the course and behavior of tumors, and will always be retained by medical and surgical writers.

The words carcinoma and cancer are, to the minds of both physician and layman, but synonyms for malignancy, and for rapidly fatal tumors.

Carcinoma is a very pronounced type of malignant tumor, and it is the purpose of the present paper to present again (and this subject has been repeatedly and well presented before) the importance of the application of the appropriate treatment in this disease at the earliest possible moment.

Carcinoma is an epithelial tumor, in which the proliferative activity in the cells has gone entirely wild. Epithelial cells that are usually arranged in a single row, become piled up in masses, and these same cells break through the anatomically limiting basement membrane and nests; great masses and columns of cells invade the surrounding structures. These cells find in the lymphatic channels lines of least resistance for their growth; indeed, drainage streams down which they may float. Fortunately, lymph nodes are interposed in the course of these streams and act as physiologic sieves, which arrest all solid materials. Carcinoma cells may grow along the lumen of lymph vessels by cell division, in a line of least resistance, or they may be picked up directly in the lymph stream and float with the current to the first obstruction, as would a stick of wood float down stream in a river. When such floating cancer cells lodge in a lymph node they begin at once to grow, and to form a new tumor, which is now known as a *metastasis.* It becomes at once apparent that it is possible to have a secondary tumor at a spot very remote from an original very small tumor; that this secondary tumor may appear very soon after the primary tumor, and lastly, that this new tumor may possess all the characteristics and dangers of the primary growth. Should a primary tumor be removed and such metastases left behind, then the patient is not relieved of

a single danger of this dreaded disease. The operation has not only done the patient no good, it has done a positive harm, by causing the remnant to take on a more active growth, and by shortening the life of the patient.

It is not possible to determine, clinically, just how early metastasis does occur, nor how widely it has extended; yet, in a general way, it may be stated that metastasis probably does not occur immediately, and may not have occurred, even when the primary tumor has attained considerable size. There is probably a considerable range of variation in this respect with different tumors and in different localities. This much must be said, however, and here is one of the points in my paper, metastasis does occur earlier and more widely than most physicians and surgeons think. As has already been stated, metastasis is in reality a terminal symptom of the dreaded disease, and the involvement of the first chains of lymph nodes renders the probability of an involvement of the second, the third, or the fourth chains very great. In other words, when lymphatic transmission has once begun it is most difficult, too often impossible, to circumscribe the lesion.

Inasmuch as wide excision of the tumor, by a cutting operation, is the only completely demonstrated means of curing carcinoma, it becomes apparent that certain cure will occur only in those cases which are submitted to surgical operation before metastasis has taken place, and that the results in these cases in which it has already occurred will depend upon the completeness of the removal of these lymphatic extensions.

It is a well-known fact, however, that cases of carcinoma do not come to us for operative treatment at this early and very favorable time. The reason for this it is important to consider. Is it the fault of the physician who first sees these cases, a fault of mistaken diagnosis? I should unhesitatingly say, no. I am convinced that all well-informed physicians now recognize the dangers of any kind of a tumor, that they recognize the importance of an early removal of all tumors, that they know the safety of aseptic surgery, that they do send their cases to the surgeon as soon as they see them.

The fault undoubtedly rests with the patient, and in two ways. In the first place the layman and, particularly women, have such a frightful dread of cancer that they will not consult a physician about a small lump until forced to do so, because they are afraid he will tell them that it is a cancer. In the second place, most people do not understand the necessity for early attention to a new growth, and invariably insist upon the doctor giving them something "to soften," "to spread," or "to reduce" it, in spite of all that he can say in favor of operation.

I believe that more accurate information regarding the nature and treatment of tumors should be made a part of the general information of the public. I believe that people in general should know that all tumors are dangerous and should be removed, that the word operation is not a synonym for death; that cancers are very common, and that even these malignant cancers are curable when treated by very early operation. This duty, it seems to me, devolves upon the family physician, and it is for this reason that I say the burden of responsibility for so many late operations rests upon the family physician. I believe that he could very easily and very forcibly impress these points upon the mother of a family, that each mother would transmit the knowledge to her children and to her friends, and that such information as it would be necessary or wise for the layman to possess would soon obtain a very general dissemination. The church sewing society will serve an additional great and good purpose in disseminating such information.

In conclusion I will repeat my original propositions:

1. Metastasis in carcinoma occurs much earlier than most physicians think.

2. The operative treatment of carcinoma will meet with success in exact proportion to the degree of metastatic extension.

3. Most cases of carcinoma come to operation after metastasis has occurred, and the burden of this responsibility must rest largely upon the family physician.

4. The signs of malignancy as given in text-books are entirely valueless from a clinical standpoint.

22 W. Seventh Street.

[Written for the MEDICAL BRIEF.]

Dysentery.

BY W. ED. GRANT, M. D.,

Professor of Anatomy and Medical Life Insurance in the Medical Department of Kentucky University; Professor of Anatomy in the Louisville College of Dentistry. Louisville, Kentucky.

My subject includes both acute and chronic inflammations of the large bowel, which are always accompanied with small, frequent and painful discharges from the bowels, containing mucus and blood, but I shall say but little about the chronic form, and confine myself to a consideration of the management of the acute sporadic form of the disease.

In searching for the cause of an attack of dysentery, we have become so familiar with germs as a factor in lighting up so many diseases that we very naturally ask ourselves if such a cause may not be a potent factor in starting and continuing an attack of acute dysentery, and it seems that the profession is, as a rule, rather firmly convinced that this is the case; while at the same time the power of the germs is aided by other causes, such as imperfectly-digested food and impaired vital force.

Dr. Mason Knox, of Baltimore, says that the bacillus dysenteria discovered by Shiga is present in the severe summer diarrheas of children in this country. This discovery promises to be one of the most life-saving advances in medicine in recent years. The serum of the blood of little sufferers has been demonstrated capable of causing the agglutination of the organisms of dysentery brought from Japan, while the serum of horses, obtained by injecting Shiga's bacillus, also agglutinated the micro-organism isolated from the intestinal contents of the American children. There seems no room for doubt that the summer diarrheas of children are due to the bacillus which causes epidemic tropical dysentery, but has been known to cause sporadic or even groups of cases of dysentery here in this country.

Well-marked cases of acute dysentery are accompanied by fever, prostration, tenesmus and small mucus and bloody stools. The more aggravated these symptoms the graver the cases. In the beginning of such an attack the most important thing for the patient to take is to take his bed. The disease tends to get well of itself if rest is secured, and all causes that can be discovered removed, as far as possible.

We deserve very little credit for treating any disease empirically. The first points to consider are the cause and the pathological condition, and then with systematic treatment founded upon knowledge, good judgment and experience, to remove the cause and the abnormal conditions. An ulcerating wound on the finger with a splinter sticking in it can not be expected to improve until the splinter, which is the cause of the trouble, is removed. The same holds good in every departure from health in every part of the body, for health is the normal condition of all its tissues, and in a healthy condition they remain until some cause disturbs them. The scientific management of acute dysentery rests upon a tripod: Rest in bed, relief of pain and a thorough cleansing of the diseased part. These are armed with their assistants, such as regulation of the diet and supporting the strength. The patient must be fed, but with a disease affecting the alimentary canal, perfect digestion and absorption are difficult. Food must be given in small quantities and at short intervals, and of a kind that leaves but little residue after digestion, and is also mainly digested in the upper part of the alimentary canal. I am partial to scalded milk, but it must be watched, as curds of undigested milk become an irritant. Diluting the milk with lime water is often advisable; sometimes I find it necessary to withdraw the milk entirely and substitute beef juice or some form of animal broth. The quantity should be as little as two ounces every two hours for the first day or two, but later on, if the trouble does not subside, the quantity should be increased to three ounces, or perhaps a little more if there is much evidence of prostration, bearing in mind that we can not increase the strength with food unless it be digested. The loading of the alimentary canal with a mass of imperfectly-digested food does harm and increases the prostration we are trying to avoid.

As regards drugs, but few and very simple ones are needed. Our first efforts are directed to cleansing the alimentary canal, and particularly the colon, the seat of the disease. One of the best remedies for this purpose is the sulphate of magnesia, half an ounce in a glass of water, and repeat in four hours if a watery, painless action from the bowels is not produced; this, followed by a little subnitrate of bismuth and tincture of opium, say fifteen grains of the first and ten minims of the latter every three hours, if the bowels are too active, will, in many cases, restore the patient to health very promptly, if the recumbent position is maintained. If, however, the pain and tenesmus continue, we have another simple and invaluable aid to call to our assistance, viz., the irrigation of the rectum, sigmoid flexure, and even the colon itself, with warm or cold water. I prefer warm water to which is added boric acid. The patient is placed on the left side with hips elevated, an oilcloth so arranged that it will carry the fluid into a vessel on the floor as it escapes from the bowel. The colon tube, attached to a fountain syringe containing the solution, is slowly introduced into the colon, following the solution which goes on before it, distending the bowel so that the end of the tube is not likely to be caught in a fold of the intestine and turned backward. If it meets with resistance it should be withdrawn and introduced again slowly. The solution, after flushing the colon, is forced out at intervals by the side of the tube, bringing with it mucus, blood, undigested food, fecal matter and toxic substances. In a short time we have the pleasure of seeing the fluid come out as clear as it went in and we may then feel assured that the ulcers have been cleansed and a healing lotion applied to them. The pain will be relieved, the stools become less frequent, and the patient gets a chance for some natural sleep, because the cause of the discomfort has, in a large measure, been removed for the time being. The quantity of fluid used is regulated by the length of time required to remove the impurities until the water returns clear. Two quarts of fluid will usually accomplish this result, and the irrigation is employed once or twice a day, as the symptoms demand. Continued discomfort, pain and prostration call for a repetition of the treatment, even if the stools are not frequent. As long as the above symptoms are present the fluid will bring out the evidence of the continued inflammatory process. I have frequently noticed, when there was marked prostration and feeble heart action with constant fever in prolonged cases of dysentery, that the bowels moved only when they were irrigated, even though this was done only twice in twenty-four hours.

It has been my good fortune never to have lost a patient afflicted with this disease when the irrigations were persisted in throughout the entire duration of the case, even though it lasted several weeks, and this fact has, of course, increased my confidence in the method.

During the progress of a long case there are many special symptoms that will require treatment as they arise. Opium secures sleep and rest, and at the same time quiets the peristaltic action of the inflamed bowel. Alcohol and digitalis are of great value in aiding an enfeebled heart.

It is a mistake to relax our care of diet and rest when we find the patient improving, as a spark of the disease may be smouldering somewhere in the colon that can be easily fanned into another outbreak by imprudence in eating improper food, or making unnecessary effort.

I note that some authorities do not agree with me. Some say there is danger of the presence of the rubber tube increasing the disturbance in the bowel; also that the tube might perforate the diseased wall of the bowel, or over-dilatation of the intestine might result in its rupture. The possible danger of such accidents give rise to some trepidation in employing the method, but my experience has convinced me that if too much pressure is avoided by holding the bag of the syringe about two feet above the buttocks and permitting the fluid to flow ahead of the tube, distending the bowel and making a free passage for it, and avoiding obstruction by withdrawing the tube and inserting it again, gradually, there will be little danger. It is not an easy procedure to pass the sigmoid flexure, it requires patience and careful manipulating.

Regarding rupture from over-distention, I do not think, with the pressure I suggest, the danger is nearly so great as that which follows neglect to wash away the impurities contained in the colon. Besides, over-distention is avoided by encouraging a return flow of the solution by the side of the tube. In infants I use a rubber catheter much smaller than the ordinary colon tube. Dr. B., who practices at Port Said, and who sees this disease in the malignant form usually found in the tropics, says he has found injections of a liter of tepid water, to which twenty to forty drops of carbolic acid have been added, so useful in dysentery that he is inclined to regard this procedure as a specific in the disease. The colics and the flatulence subside and the recurring exacerbations are less frequent and less painful. He says if the buttocks are raised a little above the level of the head the water flows into the transverse colon without the need of any special apparatus. He accompanies the entero-clysis with two or three grams of bis. salicylate a day, to soothe the erethism of the gastro-intestinal tract, and avoids opium entirely. I know that ipecacuanha is very highly thought of by physicians of large experience in the treatment of dysentery. Dr. Anders, of Philadelphia, considers it the best remedy we have in doses of fifteen to twenty grains. He says that the patient after taking such a dose, if kept perfectly still in the recumbent position, not even allowed to swallow the mucus, which is wiped from the mouth by the nurse, will be able to keep the dose down until it has the effect of producing a large cholagogic stool. When large doses can not be retained, small doses of ipecac, one-quarter grain each, repeated until a like effect is obtained, gives excellent results.

I have never tried ipecac, but no doubt if I saw such violent and disastrous attacks as are met with in the tropical form, I might be driven in desperation to its use. I know, feeling perfectly well, as I do, that if I were to take fifteen grains of ipecacuanha I would be a desperately sick man in a very few moments, and when we have an already desperately sick and greatly-prostrated patient, we hesitate to give a drug which we know would make a strong and well man very sick.

Regarding the chronic form, when the ulcers are very slow in healing. These ulcers grow better and then get worse; recovery is nearly always slow, and the disease drags over a period of years. The discharges from the bowels are frequent and contain blood, mucus, pus, the patients gradually lose strength and become emaciated and anemic. Rest and diet are first considerations in the treatment of the chronic form. I like an exclusive milk diet for a long time, at least four weeks, and if it is not borne well animal broths are added to the milk.

As to drugs, something must be given to assist the digestion and assimilation of the food, and besides this subnitrate of bismuth is most useful, one-half drachm four times a day, given in a glass of scalded milk.

It is in these cases that we note so much improvement by daily cleansing the ulcers and bringing medicated solutions in contact with them by irrigation, after the method I have suggested in acute dysentery. For old ulcers in the colon, irrigation once or twice daily with a solution of nitrate of silver, five grains to the pint, I have found most useful, the bowel having just been cleansed with a copious flushing of warm water.

723 W. Jefferson Street.

[Written for the MEDICAL BRIEF.]

Fatal Case of Iodoform Poisoning.

BY THOMAS B. NOBLE, M. D.,

Professor of Abdominal Surgery in the Central College of Physicians and Surgeons. Indianapolis, Ind.

Mr. K. came to my office suffering with symptoms of appendicitis. I prescribed a cathartic, instructed him to rest in bed, and ordered the application of cracked ice to the appendiceal region. On the night following I was called to see him and found a temperature of 102½° F.; pulse, ninety-six; nausea, intense pain over right lower quadrant of abdomen, and extreme rigidity of abdominal muscles. Next morning he was taken to the hospital and immediately prepared for operation. The abdomen was opened and the appendix removed. Perforation had occurred at the seat of a large concretion,

and the appendix was gangrenous. There was no provisional barrier of inflammatory exudate, the appendix lying in the midst of a small amount of pus, and grayish mucus, which had escaped through the perforation. The peritoneum showed no changes. It was bright, smooth and lustrous. The cavity was cleaned and the abdomen closed. Temperature and pulse fell to normal at once. Pain no longer existed. No nausea followed the anesthetic and everything went well until the beginning of the fourth day. From the time of the operation the bowels moved spontaneously every day. On the morning of the fourth day, temperature stood at 100° F., pulse seventy-two, no pain, and the patient was in excellent spirits. The slight rise in temperature aroused no alarm. The following night at twelve the nurse telephoned me that while all else seemed well, his temperature was 104° F.

An immediate visit to the hospital revealed the following: No pain or distention, pulse sixty-eight, temperature 104.5° F. He complained that in closing his eyes he could see all sorts of outlandish bodies moving about, which prevented sleep. There had been no chill. I removed the dressing from the wound. Directly underneath a pad of iodoform gauze, which had been placed over the incision, the skin was bright red and edematous. The edema ran upward and backward along the line of the lymphatics, as far as the lower border of the ribs. Pressure over edematous area was painful. There was no sharply-defined line of demarkation between the affected and unaffected skin, as is seen in erysipelas, but the scarlet blush gradually faded away into the normal paleness of the skin. The wound was bathed in alcohol and ether and a plain sterile dressing applied. By nine o'clock next morning the temperature had fallen to 101° F., and though his saliva and urine gave reaction for iodine, I felt that elimination would be complete and recovery occur, but instead his temperature arose again and remained in the neighborhood of 104° or 105° F. until his death, which occurred one week from onset of symptoms, and eleven days after operation. During this week he never had any chilly sensations, nor sweats. His pulse never ran over eighty-five until two days before death, and usually hovered about seventy, often it was found at sixty. The wound healed without suppuration. On the eighth day I removed the stitches and, though the skin had united, I tore it apart for a short distance in order to drain out some golden-colored serum, the exudate causing the edema. A counter-puncture was made through the skin, midway between the crest of the ilium and tip of last rib. From this puncture quite a quantity of clear, yellowish fluid drained away. As time progressed the edema extended upward into axilla and downward over inguinal region. The skin which, as aforesaid, was scarlet in hue, became dull red, bluish, then gray, and died. The death of the skin was secondary to liquefactive necrosis of the subcutaneous areolar tissue. This process resulted in the complete separation of the skin from external oblique on the right side. Saphrophytes now appeared, to further complicate conditions and alter the clinical picture. A foul odor arose from the decaying flesh, the pulse became rapid and weak, the skin wet, and the mind—heretofore clear and calm—was now broken in delirium. Death closed the scene, due, as I believe, to sapremia, ptomaines having been absorbed from the saprophytic process, which covered almost the entire right half of the body.

Without going into a differential discussion of the local action of pathogenic bacteria known to attack wounds, and after a careful review of their possible effects, I am convinced that the fatal sequence in this case began with a toxic necrosis due to iodoform, and closed with sapremia and death.

It is worthy of note that our patient consumed large quantities of milk, beef juice and whisky. His bowels moved spontaneously every day, sometimes twice a day. His abdomen was not distended and was never painful or tender.

427 Newton Claypool Building.

Enclosed find check for one dollar for which send me the MEDICAL BRIEF. It contains the best editorials of any medical journal in the U. S.— DR. SHOULTS, Napa, Cal.

[Written for the MEDICAL BRIEF.]

Prolapse of the Kidney—So-Called Movable or Floating Kidney—Cured Only by Operation, and the Necessity Therefor.

BY AUGUSTIN H. GOELET, M. D.,

Professor of Gynecology New York School of Clinical Medicine; Gynecologist West Side German Dispensary; Fellow of New York Academy of Medicine, American Medical Association, New York State Medical Association, etc. New York City.

Palliative measures may be permissible in some conditions if, in the absence of positive or permanent benefit therefrom, no harm results, otherwise they are injudicious. It has been shown beyond question that such measures applied to the condition under consideration here are not only productive of no permanent benefit, but prove positively injurious, in many instances. This applies more particularly to the different forms of artificial support, such as belts, pads, corsets and plaster strapping of the abdomen. These appliances invariably cause increased irritation and congestion of the kidney, because of the constant pressure they must exert to support it, and they do not replace the kidney or hold it in its normal position, nor do they materially curtail its mobility. At best they only prevent possible descent to the extreme limit permitted by the elongated pedicle of the prolapsed organ. It is quite true that such support affords relief at first, in some cases, but the patient soon realizes that it has been only temporary, and in no way compensation for the discomfort she has been obliged to endure. This is more particularly true in the absence of general ptosis of the abdominal organs. When there is a general enteroptosis, a properly-fitting abdominal belt always affords much relief. That condition is not, however, always an accompaniment of prolapse of the kidney.

The sustaining power of the perirenal fat has been greatly overestimated, for in many cases of exaggerated prolapse there is found an abundant supply of surrounding fat, constituting the so-called fatty capsule, which elongates with the descent of the kidney, affording it no support whatever. Hence, the fallacy of the treatment of these cases by building up the general health and putting on more fat, if that is possible.

Treatment by rest in the recumbent position for a prolonged period is less objectionable and more rational, as it secures replacement of the kidney to its normal position during the period of rest, permits restoration of its function and circulation, which has been seriously hampered when it was prolapsed, and if proper dietary restrictions are enforced, a marked improvement should result, both in the subsidence of the irritation and inflammation of the organ and relief of the symptoms of which the patient has been complaining. But, unfortunately, the benefit continues only so long as the recumbent position is maintained, and possibly for a short time thereafter; for upon resumption of the erect position and the ordinary duties of everyday life, the kidney descends again, it ceases to functionate properly, and the symptoms reappear.

Hence the fallacy of expecting a cure to result from this method of treatment. At best, it is only palliative, though it may not be considered harmful. It might very well be instituted as an initial step to fixation of the organ by operation, the only method of radical cure, since it puts the kidney in the best possible condition for its permanent recovery from the structural changes consequent upon the displacement. It is doubtful, however, if many would submit to restraint in bed for so long a period, both before and subsequent to this operation, and it is not essential.

The prolapsed kidney is always a crippled organ, since its circulation and function is seriously interfered with when it is out of position so far below the normal plane, which is, unfortunately, during the greater part of every twenty-four hours, when the patient is in the erect position. That the consequences of such interference with the function of so important an organ as the kidney is not so promptly and profoundly manifested as to be readily recognized, is owing to the fact that the kidney has a chance to functionate and recover partially, at least temporar-

ily, during a portion of the twenty-four hours, while the recumbent position is assumed, when it becomes replaced to its normal level and, also, because the burden of its work is transferred to the other kidney, if that is not also prolapsed. In time, however, the opposite kidney must become involved in consequence of the extra work imposed upon it.

This interference with the circulation and function of the kidney when prolapsed, occurs because the vessels supplying the kidney are so constructed as to act normally when the kidney is at its normal level, the veins having no valves, hence when the kidney is very much below its normal level, the return flow of blood from it must travel uphill. Also, the elongation of these veins lessens their caliber, affording another source of restriction to the return circulation. The consequence of this is a constant engorgement of the kidney while it is prolapsed, which, as has been pointed out, is the greater part of every twenty-four hours. This more or less constant congestion leads eventually to inflammation of the structure of the organ and of its pelvis, hence in a large proportion of these cases a chronic pyelonephritis is revealed by careful microscopic examination of the urine. The excretory function of the kidney is, likewise, seriously impaired by this interference with its normal circulation, and the draining off of the excreted urine is retarded, because of the bend in the ureter, the pelvis occupying a lower level. This is more pronounced because the ureter is attached to the structure of the back, while the kidney, with pelvis, is free to descend. At times this bend amounts to a sharp flexure, completely occluding the caliber of the ureter and arresting the downward flow of urine from the kidney. It should not be difficult to comprehend that this state of affairs seriously cripples the kidney, and that it must ultimately lead to serious results. The consequences of prolapse of the kidney are, hence, as pointed out by Henry Morris, of London, pyelonephritis, perinephritis, atrophy, and hydro- and pyonephrosis, and all of these conditions are hastened, or aggravated, by all forms of artificial support, because of the irritation produced by the pressure necessary in the attempt to support the kidney.

In view of what has been shown, can temporizing with this condition be considered justifiable? And is delay in permanently overcoming the prolapse by operation wise? I think not. The proper course, to my point of view, is to correct the condition as soon as it is discovered, before any of the possible consequences, as enumerated above, have been established. If structural changes in the kidney have already set in when the patient comes under observation, the proper course is to restore the organ to its normal position, and thus give it the best possible chance to recover, and ultimate recovery can confidently be anticipated, if the disease is not too far advanced.

The objection to operation for this condition, from some sources, on the score that it is not a serious condition, nor one that produces unbearable symptoms, is irrational and illogical, for, apart from what has been pointed out above as the consequence to the kidney when the prolapse is neglected, these patients are always chronic invalids, sick one day and by no means well the next, incapable of ordinary exertion without fatigue and depression, and incapacitated for the usual requirements of life. I have pointed out elsewhere* also, that prolapse of the kidney exerts a decided influence in producing and maintaining diseases of the female pelvic organs, because the kidney is forced back upon and compresses the ovarian vein, when the waist is constricted by the clothing or corsets, thus interfering with the return circulation from the pelvis, and maintaining a constant congestion of those organs.

Likewise objection to the operation, that it is too serious a procedure, or remedy, for a condition that some choose, without reason, to regard as of little consequence, and one not entirely free from risk to life, will not hold in the face of statistics that prove conclusively the contrary, viz., that the operation has no mortality and is, therefore, without risk. The author has completed two hundred and eleven consecutive nephropexies on one hundred and

*Journal of the *American Medical Association*, August 23, 1902.

sixty-two patients; in forty-nine of these anchoring both kidneys at the same time, without a death, and without a single marred or retarded convalescence, every patient being out of bed in three weeks.

The success of the operation in securing permanent fixation of the kidney will depend upon the method of procedure adopted, and the operator's experience and judgment, both in its execution and the after-management of the case. In the *Journal of the American Medical Association*, November 7, 1903, in a paper read at the New Orleans meeting, I pointed out eighteen reasons why the operation may fail. Hence, it is an operation that requires more than usual skill, both in its execution and subsequent management.

The ultimate result of the operation will depend greatly upon how long the condition has existed before it is undertaken, the condition of the kidney, the position of the kidney when anchored,* and the state of the patient's general health and nervous system, which are always more or less seriously impaired, and require careful treatment subsequently. Hence, care of the patient should not cease altogether upon recovery from the operation, which is to be regarded rather as an initial step towards a cure.

2030 Broadway.

[Written for the MEDICAL BRIEF.]

Report of a Case of Strangulated Oblique Inguinal Hernia in an Infant Six Weeks Old.

BY W. JACKSON MILLER, M. D.,

Professor of Surgical Anatomy and Operative Surgery in the College of Physicians and Surgeons.
St. Louis, Mo.

F. M., aged six weeks, was brought to the clinic of the Woman's Hospital, suffering from poisoning, caused by some preparation (containing opium) which was used as a soothing syrup. The recovery from the poisoning was rapid and complete. While in the hospital the child developed a mild attack of bronchitis, and remained four or five days in the hospital under the care of Dr. H. W. Lyman, of the staff. The child was found to have a congenital hernia. About one week after its discharge the child was again brought to the hospital by the mother, who explained that the child had been crying continually, and she was unable to find a remedy.

On examination the hernia was found to be down and very tightly strangulated, with immense distension of the bowels. The ordinary methods of reduction were applied, but without success. Meantime the child was anesthetized with chloroform and prepared for operation. The stricture was found to contain a loop of the ileum, with strangulation occurring at the canal.

The operation was quickly done, the integrity of the gut was perfect and the closure of the wound was made after the Bassini method. Recovery was uninterrupted, the wound healed by primary intention.

I saw the little patient six months afterward and the result remained perfect.

My reasons for reporting this case are:

1. The age of the patient, which is, I believe, one of the youngest, if not the youngest, case of strangulated oblique hernia on record.

2. The possibility of curing these young patients suffering from hernias, by radical operation, when it is difficult to retain by means of trusses or bandages.

After a lapse of years the little patient seems to have had no trouble of any sort as a result of the condition or the operation, and when I last saw him there had been no recurrence.

3014 Park Avenue.

*The position of the kidney after nephropexy. (Goelet) *American Journal of Urology*, 1905.

A Word of Caution.

HAMMOND, IND., February 22, 1906.

MEDICAL BRIEF, St. Louis, Mo.:

GENTLEMEN—There is a man by the name of J. F. Cook who is traveling all over the United States, calling himself our general agent, and borrowing money from every physician who will loan him from $5 to $75. Will you kindly caution the medical profession against this man, as we have no agent?

Yours very truly,

FRANK S. BETZ CO.

[Written for the MEDICAL BRIEF.]

Treatment of Tuberculosis Knee Joint.

BY WILLIAM C. DUGAN, M. D.,

Professor of Surgery and Clinical Surgery in the Louisville Medical College.
Louisville, Ky.

Tuberculosis of the bone is becoming more and more frequent. It was formerly believed that the disease was located in the synovial membrane. It is now known that the synovial membrane is but rarely affected primarily. As a rule, in tubercular arthritis, the disease appears not in the synovial membrane, but in the bone itself.

While this disease occurs early in life, no age is exempt. It is most frequently found in the distal side of the epiphyseal bone. The tubercle bacilli is found in the wall of the arterioles, and early in the case the blood vessels are the site of deposit of the tubercle bacilli; it follows, therefore, that the synovial cartilage, which is rich in blood vessels, would be the foci of the infection.

If the knee joint is the site of the disease, before the patient comes under observation, the joint is usually involved to such an extent as to require resection; that is, the removal of the end of the bone. During excision the condition of the bone must be carefully observed. In children the epiphyseal line is just below the adductor muscle; if you find it necessary to go above this line it is better to amputate, involving, as it does, the entire epiphysis. As long as you can keep below the epiphyseal cartilage resection is in order.

After having made your flap (semi-lunar or otherwise) try to determine the depth of the pockets of tubercular material. By cutting the lateral ligament you bring the two bones down, slipping one beyond, then cut off the end of one of these bones, the femur first. If both bones are not involved, you limit the operation to the bone that is diseased. In adults, as a general thing, you excise both bones.

In children it is necessary to leave all the tissue possible, otherwise growth will be materially interfered with. Pockets extending down into the bone are curetted out thoroughly, cutting down until you reach the tissue, which bleeds easily. It is better to cut even further than that. The Paquelin cautery may be used to burn this cavity down to its bottom, to get rid of the tubercular pockets which might escape the curette. If the disease is so extensive as to involve the entire end of the bone, amputation is best, cutting well beyond the lowest point of inflammation.

The after-treatment of these pockets consists in filling them with iodoform gauze and an emulsion of ten per cent olive oil and glycerine. If everything is perfectly aseptic and all the tubercular material is gotten rid of, the iodoform packing is inserted and permitted to remain. It will become encysted and need not be removed. If there appears to be any risk in that, the gauze can be drawn out, bringing it out below the knee, simply drawing it from below; an additional advantage is that you get better drainage.

The important feature then is early diagnosis before the abscess has formed. Expose the tubercular tissue, curette it, or cut it down to the tissue which bleeds easily. If sinuses have formed, these must be carefully curetted from end to end, then wash out with normal salt solution, to get rid of the granular tissue. In children the epiphyseal cartilage must not be removed, and the operation is limited to one bone, or a very thin piece of each bone. If the disease has extended beyond that point, amputation is the last resort.

607 Third St.

[Written for the MEDICAL BRIEF.]

The Diagnosis and Treatment of Neuralgia Attributable to the Teeth.

BY H. B. TILESTON, M. D., D. D. S.,

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Louisville, Ky.

Doubtless many cases of neuralgia are erroneously attributed to the teeth, notably tic douloureux, which is seldom or never of dental origin. But there are many cases of neuralgia about the head and face which can be traced directly to lesions of the teeth. The pulp of a tooth is highly vascular, containing blood vessels, connective tissue and nerve fibers,

the blood supply entering by and finding its exit from the constricted apical foramen in the mature tooth, for which reason, and because of the thinness of the walls of the arteries, this organ is peculiarly liable to hyperemia. Like other organs which are normally shut off from external contact, the pulp is lacking in the tactile sense, and neuralgias which are traceable to a diseased condition of the tooth pulp are, consequently, characterized by reflex pains. The pulp, which is the seat of an odontalgia, may cause pain at any point along the fifth pair of nerves, at the eye or the temple, and most frequently in the ear. A diseased tooth pulp is diagnosed by what is known as the thermal test. In the normal condition the tooth will not respond painfully to variations of temperature, ranging from about 70° to 115° F., but when the pulp is in a state of active hyperemia even slight deviations from the body temperature will produce pain.

In cases of neuralgias located in the eye or ear, which are obscure as to origin, and where dental involvement is suspected, the affected tooth can be located quite definitely by dropping water of, say, from 50° to 80° F. upon the teeth in the neighborhood of the suspected trouble, isolating each tooth in turn by means of the rubber dam, when the tooth responsible for the pain will be located. In case of an open carious cavity, the food debris and other accumulations should be washed out of the cavity with a little warm water, and the cavity cleaned as well as possible by means of a spoon-shaped instrument, so as to relieve the possibly exposed pulp from any pressure. Relief from the pain can usually be obtained by applying oil of cloves, which exerts quite a definite anesthetic action upon the pulp, or carbolic acid combined with oil of cloves; also menthol and chloroform, applied topically, will frequently give relief. If the tooth has been filled and hyperemia of the pulp ensues, especially if the hyperemia is passive, relief is not so easily obtained, except by removal of the filling. It is sometimes possible, however, in these conditions to soothe the pulp by means of counter-irritation, painting of the gum with a mixture of the tincture of iodine, aconite and chloroform, equal parts, or by the application of a capsicum plaster. These measures will give relief of a temporary nature. If congestion is far advanced the only relief of a permanent character is obtained by the removal of the filling and destruction of the pulp.

In cases where suppuration of the pulp has occurred, localization of the neuralgia is more definite, because in almost all such cases the inflammation has extended to the peridental membrane, and the tooth becomes sensitive to percussion, and is generally located by the patient.

In suppuration of the pulp the pain is usually excruciating where the pulp is confined by an impervious covering of the tooth tissue, or by a filling which has been placed in the tooth. The only relief in cases of this kind is obtainable either by extraction of the tooth or uncovering of the pulp, permitting the evacuation of the pus. When the pulp is in this condition necrotic changes rapidly follow, and the diagnostic symptoms in the thermal test are distinctly different. In advanced congestion, and in conditions of inflamed pulp, when the veins of the pulp are overcharged with blood, and also when putrefactive changes have ensued, we have increased pain upon the application of water above the normal temperature, and relief from the pain is followed by the application of cold water. When the blood vessels are thus surcharged, or when mephitic gases occur in the pulp, due to putrefaction, the hot water produces an expansion in the contents of the pulp chamber and, consequently, pressure upon the nerve filaments which may still remain vital in the pulp, or upon the nerves about the apical foramen, thus increasing the pain. Cold water, on the other hand, producing contraction of the contents of the pulp chamber, causes a distinct sense of relief. It is following just such conditions as these that we have alveolar abscess. If the pulp chamber is entered previous to the beginning of the formation of pus, relief is immediate. If, however, the abscess has already begun it will generally have to run its course, the only relief possible being obtained by surgical interference, either entering the tis-

sues about the root apex and breaking up the center of infection, or the extraction of the tooth

To summarize, neuralgias arising from vital pulps are characterized by reflex pains; as soon as the peridental membrane becomes involved, the pain is localized in the tooth responsible for the trouble.

Equitable Building.

[Written for the MEDICAL BRIEF.]

"One of the Modern Fads in Medicine."

(Reply to M. Belle Brown, M. D.)

BY JAMES A. LOGWOOD.

Christian Science Publication Committee for the State of Missouri. St. Louis, Mo.

Having carefully read the item published in the February number of THE MEDICAL BRIEF, under the heading, "One of the Modern Fads in Medicine," by M. Belle Brown, M. D., Professor of Diseases of Women in the New York Medical College and Hospital for Women, and observing its wide departure from the actual facts concerning the teachings of Christian Science, I appeal to your sense of fairness and justice in offering a brief correction. The Doctor evidently has been grossly misinformed, both as to the teaching and practice of Christian Science. I am offering this reply from the standpoint of one who has given much study and thought to the subject for more than fifteen years.

The Doctor admits that among the Christian Scientists, "You will find people of intelligence, social prominence, education and refinement," but at once brands them all as being silly dupes to "the power of a seductive fanaticism; . . . . . willing to be duped or humbugged when their health is concerned, and to be deceived in reference to their souls." Continuing, the Doctor says, "These smooth adepts in the art of deceiving gather in the multitude by promising them health and comfort for both body and soul."

It is a little difficult, in reading the Doctor's remarks, to see just where she draws the line between what she terms its "advocates and followers," and the "adepts," among its workers. To clear up this point for the public, one of the most attractive features of the teachings of Christian Science is that it has no specialties or specialists; no particular person set apart to heal the sick or to preach the gospel. It is the purpose of the teachings of Christian Science that each student, or follower, should gain a demonstrable understanding of the subject. In proportion to their understanding, every true Christian Scientist is qualified to preach the gospel and heal the sick in the name, and after the manner, of the teachings of Jesus Christ, who said, "If ye continue in my word, then are ye my disciples indeed: and ye shall know the truth, and the truth shall make you free." Such work should not be branded fanaticism, unless Christ Jesus, the Teacher and Founder of Christian healing, was a fanatic.

Doctor Brown further states: "All the vaunted wonderful cures made by these Christian Scientists have been cases of imaginary rather than real sickness. Those who have been benefited by the theory and practice of these deceptions and faith perversions have become awry as to the reality of sickness and its consequences, so that when actual disease attacks a member of a family, a life is apt to be sacrificed."

It is a widely known fact that the majority of cases that come to Christian Science for treatment have been pronounced chronic or incurable; these conclusions having been reached from the careful diagnosis of one or more reputable physicians. The Christian Science practitioner includes this diagnosis in his mental treatment of the case, and therefore, if there was any mistake as to the nature of the disease, it must have been on the part of the diagnostician rather than the Christian Scientist.

The Doctor further states, "I have seen the hopelessly blind led every day for months to one of these pretenders, kneeling before her in an attitude of devotion, repeating after her, "I am not blind," "Now I can see," paying his five dollars a treatment, expecting every day to suddenly have his vision restored when he would behold this marvelous creature adorned as she always is, in the latest fashion. At last accounts his atrophic optic nerves refused to respond and he still has only a mental picture of this

wonderful woman who is still gathering in the shekels from the credulous public."

The writer is thoroughly familiar with the uniform practice of treating the sick through spiritual means, as taught by Christian Science. However, he has never known of a true Christian Scientist using the extraordinary methods above quoted; nor has he ever before heard of any Christian Scientist charging five dollars a treatment.

It is not the purpose of Christian Science to attempt to overthrow, or antagonize, the progress and good work of all honest physicians and surgeons, who are striving to relieve the sufferings of their fellowmen. Your splendid publication, the MEDICAL BRIEF, points out many advanced methods of treating disease, in the present age, over the systems of the past, and, in many instances, points out the undeniable influence of the mental, as being superior to the material means. I am sure that you will agree that there should never be but one motive in the study and practice of therapeutics; and that is, to reach the very best curative method for healing all manner of diseases. The purpose of Christian Science is to help the human race physically, mentally, and morally; believing that the method of healing practiced by Jesus Christ is possible to this age.

There are many undeniable cases of healing by means of Christian Science treatment, including both acute and chronic diseases. Since a case of blindness was referred to, I should like to mention a remarkable case of healing of this character, which I know of personally.

A lady who, from her early childhood, was troubled with her eyes. As she grew older she grew steadily worse. She was treated for many years by noted oculists, physicians and surgeons, traveled extensively, and spent much time in hospitals and sanitariums, but finally became totally blind; so she was not able to distinguish between midnight and noon. Her father, a wealthy banker, spent about fifteen thousand dollars in an endeavor to have her sight restored.

Finally the case was given up as hopeless, the physicians saying that nothing more could be done, and that she would be blind for life. After this she was persuaded to try Christian Science treatment, but had no faith in it whatever, and only tried it as a last resort. Within three months from the time she began this form of treatment, her eyes were completely healed, and her bodily health better than it had been for years.

This occurred nine years ago, since which time this lady has never worn glasses, and has never required the services of a physician or surgeon, or any other form of treatment, and she is still, today, in perfect health. Her eyes are perfectly clear and strong, she being able to read fine print continuously without any discomfort. The total cost, of her treatment in Science, including such literature as she needed, was sixty dollars. This testimony can be corroborated by the lady herself if any one wishes to further investigate the case.

The Doctor, in closing her article, says, "There is no such thing as divine power in human hands." If God, as the Scriptures teach, is Omnipotent, and Omnipresent, and is Spirit, then there must be always around about us spiritual power and influence. Christ Jesus healed the sick through His understanding of how to use this power. He said, "My Father worketh hitherto, and I work."

Saint Paul, recognizing that all men should finally understand that divine power was practical among men, as it was with Jesus and His disciples, said: "Let this mind be in you, which was also in Christ Jesus." And again, he said, "Be not conformed to this world, but be ye transformed by the renewing of your mind, that ye may prove what is that good, and acceptable, and perfect will of God." I believe that the world is rapidly approaching the period when all men will more clearly understand divine power and influence; and that all thinkers will find that the Infinite Mind, when better understood, will prove to be the panacea for every ill that flesh is heir to.

Enclosed find one dollar for which send the MEDICAL BRIEF another year. I can not get along without it.—WAYNE SIMS, M. D., Atlanta, Ga.

[Written for the MEDICAL BRIEF.]

Climate in the Treatment of Consumption.

BY J. A. COX, A. M., M. D.,

Author "Practical Paragraphs for Patients and Physicians," "Practical Problems, Arithmetical and Algebraic, for Students and Teachers," and Joint Author "The New Arithmetic." Wheeling, W. Va.

Volumes have been written upon the value, real or imaginary, of a change of climate in the treatment of disease, especially that of pulmonary troubles.

I believe, with Flint, that no climate has any specific influence over consumption. In fact, native cases of tuberculosis are to be found under all skies.

What appears to benefit one patient may prove injurious to another.

To one, a dry climate acts favorably; to another, a moist atmosphere proves beneficial. To one, a Northern climate is invigorating; to another, a Southern sun is exhilarating. To one, a high altitude is rejuvenating; to another, a lowland is the more sustaining.

Thus, we see that a dry atmosphere is not necessarily healthful; nor is a moist climate necessarily unhealthful.

The same line of reasoning may be applied to heat, or cold; to height, or depth; to seashore, or inland.

Comparatively few, indeed, who make a change of climate for their health recover.

The percentage of recoveries among those who remain at home is certainly as great, and, in my opinion, much greater, than among those who go away for their health.

The separation from friends and relatives at home will, as a rule, more than counterbalance the little good that might otherwise result from a change of climate.

The selection, moreover, of a suitable climate is quite a different problem to solve, from the fact, as already shown, that what proves beneficial to one, may prove highly injurious to another.

For the comfort and consolation of those who are unable, financially, to make a change of climate, permit me to say that I believe firmly that the consumptive's chances for recovery are just as good at his own home as they would be in Colorado, Arizona, Florida, North Carolina, or, for that matter, in any clime under the shining sun.

Let the consumptive but remain daily in the open air as long at home as he does abroad, and he will, in nineteen cases in twenty, live longer, and enjoy better health.

In my opinion, the much-vaunted climatic cure for consumption is one of the greatest farces practiced today by American physicians.

In support of this view, I quote from Dr. William Potter, in November *Alkaloidal Clinic*, who, in a series of lectures delivered before the senior class of the Medical Department of the St. Louis University, 1904-5, says:

"I know of no one thing more difficult for our profession to atone for than the wrong that has been done in the past to the poor consumptive, by sending him away from home comforts, sympathy and care, to herd among others, to suffer from renewed infection, discomfort and nostalgia. On looking back over my own experience, I find case after case recorded as sent here and there in search of an El Dorado, existing only in my own misconception, and in the hopes of the patient, but which never was found. I have no objection to change of scene, to getting away from business cares and household worry, but let me urge you not to send sick and despondent ones away from what they most need to what they should most avoid.

"There is one climate that is best for all, best suited to the personal demands of every one who is sick, be that sickness what it may; it is the home surroundings, and the home comfort."

Let us now examine a few data to verify the arguments thus far advanced.

"Facts," says Smollett, "are stubborn things." Why theorize, when the truth lies, as an open book, within our easy reach?

In a circular, issued by the Illinois State Board of Health, upon the cause and cure of consumption, Dr. Flick says, "Tuberculosis can be successfully treated anywhere. Climate has practically nothing to do with the matter. Formerly, climate was looked upon as the most important factor in the production of tuberculosis, consequently, it was, also, looked

upon as the most important factor in the treatment. It has been demonstrated, however, by practical tests, that the disease can be successfully treated anywhere."

It has long been claimed that high elevations, an atmosphere free from moisture, and a sunshiny, cloudless sky were the best for the consumptive. Statistics do not bear out this belief. According to the circular above quoted, in the Massachusetts State Hospital for Consumptives, at Rutland, where the elevation is but one thousand and fifty feet, the rainfall excessive, cloudy days numerous, and winters severe, more cures from consumption have been reported than at the United States army sanitarium at Fort Bayard, N. M., where the elevation is six thousand feet, the rainfall moderate, the atmosphere dry, sky almost cloudless, and the winters remarkably mild and pleasant.

A careful study of the United States Census tables, with the descriptive matter following, shows that native cases of consumption are found in, at least, all sections of our own country.

The proportion of deaths from consumption in 1900 was greatest in the Pacific coast region, next in the central region of the plains and prairies, next in the Southern Central Appalachian region, and next in the Ohio River belt. These relative proportions were the same in 1890 as in 1900, except that the death rate in the Ohio River belt was greater than in the Southern Central Appalachian region.

The lowest death rate in the United States was in the Central Appalachian region, which includes the greater portion of Pennsylvania, next the heavily-timbered region of the Northwest, next the Southwestern Central region, and next the Northwestern hills and plateaus, followed closely by the region of the great northern lakes and the Cordilleran region. In 1890 the above order was somewhat changed, the lowest death rate being in the Southwest Central region, followed closely by the Cordilleran region, the region of the Western plains, the region of the great northern lakes, the Central Appalachian region, and the Gulf coast region.

It is vain to contend that the disproportionate death rates in consumption, as given above, are due to imported cases. I am not comparing cities, towns, districts, counties, or small communities. I am not comparing, for example, Pittsburg with Denver, nor Minneapolis with Asheville. On the contrary, I am comparing entire sections of our country with each other, and that, too, for a period of time covering two decades. Such a comparison is, unquestionably, fair, while the lessons learned are certainly well worthy our most careful study.

The death rate from consumption in Central Pennsylvania is but one in twelve and one-half, which is the lowest in the United States, while in Western California it is one in six and one-half, which is the highest in our country. Yet, hundreds of consumptives go from Pennsylvania to California in quest of their health. The death rate, as a rule, from consumption is, as the vital statistics show, greater throughout the South than throughout the North, yet consumptives, almost without exception, seek the South in search of health, rather than the North. Thousands of consumptives go from Michigan, Wisconsin, Maine, and other Northern States, to Arizona, New Mexico, North Carolina, and other Southern States, in the vain hope for relief, or restoration. How can a change from States in which the death rate per one thousand is but one in ten or twelve, to States in which the death rate is almost double, or from one to eight, or even one to six and one-half in one thousand, possibly prove beneficial?

It has been claimed that regions heavily timbered with pine are prophylactic of consumption; yet, in those portions of the South known as the Southern interior plateau, or popularly as the "pine barrens," the death rate from consumption is one in eight and one-third, while in the prairie regions, where there is but little timber, the death rate is but one in nine and three-quarters. In the Missouri River belt, where the rainfall is between ten and forty inches, the death rate from consumption is one in eight and four-fifths, while in the Northeastern Appalachian region, where the rainfall is between thirty-five and forty inches, the death rate is but one in ten and three-fifths.

In the Southern Central Appalachian region, where, in North Carolina, the mountain peaks tower six thousand seven hundred feet in height, the death rate from tuberculosis is one in seven and two-fifths, the third highest in the United States, while in the Gulf Coast region, where the elevation, except in a small part of Central Florida, is less than one hundred feet, the death rate from phthisis is but one in nine and two-fifths. This is all the more remarkable when we remember that the colored element, among whom the average death rate from consumption is much greater than in the Caucasian race, numbered in the Gulf Coast region 38.6 per cent of the entire population, while in the Southern Central Appalachian region it amounted to but 14.4 per cent. We thus see that timber, rainfall, forests, prairies, lowlands, or mountains, are neither specially causative, nor preventive of consumption.

Again, in certain districts, sections, or counties, in individual States, consumption is not so common as in other districts, sections and counties of the same States. There are, as we have said, certain parts of our own country and parts of other countries, in which consumption is not so prevalent as in other countries, and in other parts of the same country; but there is no country, nor is there any part of our country, nor, with a few doubtful exceptions, any part of any country, where native cases do not occur. These limited areas, in which the death rate from consumption was, at least, originally relatively small, constitute the much-advertised, and always overestimated, health resorts.

These so-called health resorts are often opened and controlled purely through mercenary motives, not, as their promoters would have the consumptives believe, for sanitary purposes. Moreover, even if these isolated spots, situated here and there throughout the globe, were, when first opened to the public, entirely free from native cases of tuberculosis, the influx of consumptives would soon convert them into little more than pest houses teeming with bacilli.

Indeed, there are today small sections where once consumption was almost unknown, but where now both native and imported cases abound. With the sitting and sleeping rooms, with the furniture and drapery, with the dust, and the very air itself, with even the flies and other insects swarming with the bacilli, how can the invalid hope to recover? Yea, how can the well hope to escape infection?

Native cases of consumption are proportionately rare in cold climates. It is an undisputed fact that tuberculosis is extremely rare among native-born citizens of Iceland, the Hebrides, the Faroe Islands, the Shetland Islands, and the northern districts of Norway.

Cold air is bracing and invigorating, not because it is cold, but because in a cold atmosphere more oxygen is taken into the lungs than in a warm atmosphere. Extreme cold is also more destructive to the various forms of bacteria. Still, the shock to the system in making the change from a warm to a cold climate would almost certainly counterbalance the good to be derived from the change *per se*.

Consumption is comparatively rare in the North Atlantic coast region, where the death rate is but one to nine and one-half, yet the Puritans at Plymouth perished in great numbers from quick consumption by making a change from their own shores to the rigorous climate of New England. It is, however, but fair to say that those who survived the rigors of the first winter, thereby becoming acclimated, lived, with but a few exceptions, to extreme old age.

But few, if any, physicians would take the responsibility of advising their tuberculous patients to go to Iceland, or the Faroe Islands, although, in these islands pulmonary phthisis is rare. Why should it not be more dangerous to send them to California, Arizona, or North Carolina, where both native and imported cases of consumption abound?

If it prove disastrous to emigrate *from* a climate where consumption abounds *to* one where the disease is comparatively rare, how much more fatal must prove a move in the opposite direction? Yet in the face of these verified facts, consumptives, as a rule, persist in exchanging the

crisp, zero weather of polar zones for the burning, torrid suns of tropical climes.

It is claimed that altitude, no less than latitude, plays an important part in the prophylaxis of consumption. As a rule, native cases of consumption are less frequent in high altitudes than in valleys and lowlands. This is due, not as is so generally supposed, to the rarity of the atmosphere at great elevations, but rather to the comparative freedom from microbes on the mountain heights. Hence, in the elevated valleys of the Grissons in Switzerland, in the Andes of South America, in the Cordilleras of North America, and in other mountainous regions of the world, consumption is rarer than in the lowlands.

While, however, high altitudes are somewhat favorable in preventing tuberculosis, they are, on the other hand, as already shown, often very unfavorable in pronounced cases of phthisis. In fact, the danger from hemorrhage, a complication so common in consumption, is increased many fold in making the change from a low to a high altitude.

We know that in ascending high mountains, the external pressure of the atmosphere being, in a measure, removed, while the internal pressure remains practically the same, the blood is forced from the eyes, nose, mouth, ears, and other orifices of the body. Now, in consumption, a disease in which hemorrhage is so frequent, we can readily see how much the danger from this complication is increased by going from a low to a high altitude, as, for example, from the seashore, or plain, to the mountain top or plateau.

The fact that native cases of phthisis are not so frequent in some places as in others, is, by no means, an adequate reason why the consumptive should, in such a climate, regain his health.

If the climate in question permits native cases to occur at all, could it possibly prove potent in curing cases that are already under way? Indeed, such an idea is ridiculous. Moreover, it is positively cruel to drag the sufferer from home and family, and send him into a foreign land, or into another part of his own country, there amid total strangers to die.

Indeed, not a few physicians are only too glad to be relieved of the responsibility of cases that they regard as incurable. To seek this relief by holding out the false inducement that through a change of climate the sufferer will be restored to health, is little short of criminal.

If any benefit whatever is to be realized, the change must be made, not in the incipient stage, as so many assert, but in the pretubercular stage; that is to say, before the bacilli have found lodgement at all in the lungs, or other tissues of the body. Even here a change of climate is of very doubtful utility. By this, I mean the change made may possibly benefit the patient, then again it may prove highly injurious; for the peculiar climatic condition, as we have shown, that would prove favorable in one case, might, in the next case, prove unfavorable.

For the physician to cite cures wrought by a change of climate, is simply to beg the question. Like the so-called cancer cures, the patient may not have been tubercular at all. Or, if phthisical, he may have recovered at home as well as abroad. Even granting that his restoration was due to climate change, he is still one in a thousand; he is still the exception, not the rule.

Is it humane to destroy nine hundred and ninety-nine lives in order to save one life? Is it wise for the consumptive to relinquish the comfort and pleasures of home and friends for the discomfort and annoyances experienced abroad and among strangers, when on his native heath is found a purer quality of oxygen than is possible in any so-called health resort, where every breath of air he inhales and everything with which he comes in contact is surcharged with deadly bacteria?

Dr. Potter, in his able and very interesting lectures, makes this sweeping statement: "I can not remember of a case of well-defined tuberculosis that I ever sent away who came back and lived. I know of many, now well, who never went away."

"Outdoor life for the consumptive," says the Doctor, "is the modern, practical substitute for the hypothetical 'climate cure.'"

[Written for the MEDICAL BRIEF.]

Constipation—Its Pathologic Physiology and Treatment by Exercise, Diet and "Visceral Drainage."

BY BYRON ROBINSON, B. S., M. D.,
Chicago, Ill.

"Literature is the immortality of speech."—*Schlegel.*

Constipation is infrequent or incomplete evacuation of the colon, resulting in fecal retention.

ETIOLOGY OF CONSTIPATION.

The etiology of constipation is obscure. One writer alone offers some score of causes. Sluggishness of the bowel, whatever that means, is the most frequently mentioned. The tractus intestinalis is practically under the domain of the sympathetic nerve, nervus vasomotorius. Certain general etiologic conditions may be considered.

I. Physiology of the tractus intestinalis. In the etiology of constipation four physiologic factors are involved, viz., (*a*) peristalsis, (*b*) absorption, (*c*) secretion, (*d*) sensation. Anyone or all of these functions may be impaired.

II. Local Causes.—The *local causes* of constipation may be: (1) splanchnoptosia —inefficient muscular contraction; (2) constriction of some segment of the colon; (3) collections of scybola or intestinal concretions, as in cecum, sigmoid and rectum; (4) enfeebled contraction of the intestinal muscularis; (5) local disease, as appendicitis, cholecystitis, pelvic peritonitis mesosigmoiditis—producing paresis.

III. General Causes.—The *general causes* of constipation are: (1) inefficient function (peristalsis, absorption, secretion, sensation); (2) excessive mental or physical activity; (3) special habits; (4) dietetic errors; (5) diseases of adjacent viscera; (6) factors which induce dryness of feces from inefficient secretion or excessive absorption; (7) impaired peristalsis of the colon.

IV. Anatomy.—The proper function of the tractus intestinalis depends on a normal nerve, blood and lymph apparatus. For perfect physiology, a maximum nerve, blood and lymph supply is required. The muscularis intestinalis, as well as the mucosa intestinalis, must be perfect. From frequent diseases (catarrh) of puerilitas and consequent defective digestion, with resulting deficient nourishment, a non-developed and defective tractus intestinalis remains for life.

Atrophic or infantile segments of the digestive tract (especially the enteron or small intestine, which is the essential segment—receiving the secretions from liver and pancreas) burden the adult. For example, I found in the personal measurements of the enteron in six hundred and five adults that the length of the enteron was, maximum, thirty-two feet; minimum, ten and one-half feet, and average, twenty-one feet. The enteron (a single segment and the most essential one), the business portion of the digestive tract, varies more than three times its minimum length. These facts demonstrate that the tractus intestinalis is frequently defective in length, in development, nerve, blood and lymph—in anatomy. Abnormally diminutive digestive apparatus may occur. The following recorded data secured by the personal examination of six hundred and five adults, may be suggestive in regard to the anatomy of the tractus intestinalis:

1. The average length of the enteron in four hundred and fifty-three males was twenty-three feet.

2. The average length of the enteron in one hundred and fifty-two females was nineteen feet.

3. Man's enteron averages four feet longer than that of woman.

4. The enteron increases in length most rapidly a few months subsequent to birth, when it may grow one and one-half feet a month.

5. The enteron assumes its chief length in early childhood.

6. The chief variation in the length of the enteron depends on enteritis, compromising the enteronic peristalis, absorption, secretion, and sensation, and consequently digestion, during early extrauterine life.

7. Extraordinary lengths of the enteron depend on the favorable conditions of a maximum enteronic nerve and vascular supply, with maximum assimilation continued beyond the usual period of enteronic development.

8. A subject with maximum length of enteron possesses a stronger constitution than a subject with minimum length, as he can digest and economize more food.

9. A maximum enteronic, nerve, vascular, glandular, and muscular apparatus, with similar food, would practically produce a similar length of enteron.

10. The foods which produce the most vigorous enteronic functions (peristalsis, absorption, sensation, and secretion) are those that leave the greatest indigestible fecal residue, which excites the enteronic muscularis into peristalsis, thus attracting more blood and inciting the enteronic mucosa to greater secretion and absorption—increasing digestion and, consequently, enteronic growth.

11. General and local disease influence the length of the enteron, especially during childhood, the period in life of rapid enteronic growth.

12. A child nourished with food which requires vigorous digestion, leaves a fecal indigestible residue, as cereals, would attract more blood to the enteron, enhancing its growth, than one nourished on milk only, which passes through the enteron without inducing vigorous peristalsis, and leaves little indigestible residue.

13. The human enteron presents colossal differences as to length: Males 11½ feet minimum, 32 feet maximum=20 feet; female 10½ feet minimum, 30 feet maximum=19½ feet. This variation of twenty feet is almost equal to the length of an average enteron. The enteron varies over double, or two and one-half times its length.

14. In adults the relation of the length of the enteron to the body length is as 7.2 is to 1. There is a vast difference between the absolute and relative length of the enteron of man.

15. The enteron measured *in situ* is three to six feet less in length than when extirpated.

16. Different diseases of the enteron may result in elongation or contraction. The above defects are not heredity, but acquired by disease. They will offer a clew to conditions for constipations.

V. Mechanical.—Constipation may arise from stricture, flexions, peritoneal adhesions, neoplasm, splanchnoptosia, obstruction of lumen.

VI. Dietetic.—*Quality* of foods, *quantity* of fluid, *chemical* composition, are important considerations. (*a*) *Food* must possess sufficient variety (mixed) in quantity, quality, chemical composition, and be ingested at regular intervals. The food should be mixed, however, and possess sufficient indigestible matter to leave ample residue to stimulate peristalsis (and hence absorption, sensation, and secretion). An excessive amount of coarse, indigestible food will result in an excessive fecal residue, which excessively stimulates peristalsis, absorption, secretion and sensation—resulting in muscular fatigue and defective sensibility of the mucosa—consequently reflex action is impaired. (*b*) Ample *fluids* at regular intervals should be ingested. For a person of one hundred and fifty pounds three pints daily is required to supply the bodily waste (*i. e.*, for tractus intestinalis respiratorius, urinarius, perspiratorius); eight ounces should be drunk every two hours for six times daily.

Fecal matter is about seventy-five per cent fluid and twenty-five per cent solid. The value of fluids for the tractus intestinalis is evident, because in hot weather, with consequent vigorous activity of the tractus respiratorius, constipation results. The chief value of mineral water is the quantity drunk. Excessive fluids deteriorates digestion; (*c*) foods should possess *chemical* qualities. Carbohydrates produce acidity, nitrogenous foods alkalinity, and mixed foods neutrality of the digestive tract. Evacuation of the tractus intestinalis depends on (*a*) sufficient volume of feces, (*b*) sufficient volume of fluid contents, (*c*) the presence of substances which act as a chemical irritant to peristalsis. Dr. Walter Baumgarten attempted to devise a substance which would not only be difficult to absorb, but would retain its watery contents. He administered eight grains of the dry, shredded agar-agar three times daily, whence he found the stool increased in volume and watery content.

VII. Pathologic.—The pathologic impairment of peristalsis, secretion, absorption, and sensation of the tractus intestinalis, must be studied to account for the constipation.

There may be defective innervation of the muscularis of the digestive tract and abdominal wall(splanchnoptosia). Brain and spinal cord disease (insane and neurotic), and exhausted disease.

Inhibition of reflex action may arise to check defecation, as from fissure, ulcer, hemorrhoid, operation, painful vesical affections, hypertrophy of anal sphincter. Also constipation is associated with lethargy or sluggishness of the bowels from local peritoneal or visceral inflammation, as appendicitis, ovaritis, salpingitis, cholecystitis, pelvic peritonitis. It is in such cases that opium (a sedative to the local irritation) acts as a cathartic.

The state of the contents of the bowels is significant, as chronic dyspepsia, irregular eating and evacuation in sufficient fluid accompany the food.

Anatomic peculiarities may lead to constipation, as elongated cecum, sigmoid, and adherent U-shaped transverse colon, all of which may lie in the pelvis. Much of constipation is a perversion of the sympathetic nerves controlling the tractus intestinalis.

VIII. Sex.—Woman is more liable to constipation than man, because in her the tractus genitalis is violently changed periodically—robbing the tractus intestinalis of its usual quantity of blood (puberty, menstruation, pregnancy, and pelvic disease); (2) woman is less active, more sedentary than man; (3) woman is afflicted with more splanchnoptosia; (4) woman experiences more changes in her visceral circulation (during sexual life) than man (physiology and pathology of genitals).

IX. Age Relations.—In *senescence* constipation may occur from limited food employed, limited exercise, and limited functions, due to the degeneration of senescence. In senility, peristalsis, absorption, secretion and sensation is limited from limited blood supply, due to arterio-sclerosis. In *pueritas* anatomic peculiarities exist. The tractus intestinalis develop irregularly, the nervous system is not in final established control, the mucosa, muscularis, tractus nervosus and tractus vascularis may be defective in development. Catarrh occurs with facility and frequently. The tractus intestinalis is subject to vast vicissitudes of fortune, both in regard to proper food and attacks of catarrh. Hence its circulatory life—its basic life—is subject to vast, frequent and rapid changes.

Constipation is a neurosis of the fecal reservoir. It belongs essentially among the affections of the sympathetic nerves.

The system of nerves (including Auerbach's and the Billroth-Meissner plexuses) which rule the gastro-intestinal tract is strictly in the domain of the sympathetic. However, the physiological manifestations of the nerves ruling the enteron are quite different from those ruling the colon. The nerves ruling the enteron act with intense vigor and great rapidity. The nerves ruling the colon and rectum act with moderate force and very slowly. The enteron rapidly forces the contents of Bauhin's valve in a few hours. The nerves of the colon and rectum act slowly, evacuating the fecal reservoir usually once every twenty-four hours.

The changes in the physiological action from the vigorous, rapid motion of the enteron, to the moderate, slow movement of the colon and rectum, must be due to the intervention of the inferior mesenteric ganglion, located at the root of the inferior mesenteric artery, which emits its radiating branches along the inferior mesenteric artery, supplying the left end of the transverse colon, the left colon, the sigmoid flexure and rectum. The right colon and the right half of the transverse colon are supplied by the abdominal brain, sending branches along the superior mesenteric artery. Now, it is quite probable that the slow movement of the nerves belongs entirely to the left colon, sigmoid and rectum, which is entirely supplied by branches of the inferior mesenteric ganglia.

Hence, for the regular periodic evacuation of feces, a habit established by ages, we must look to the immediate rhythmic control of the inferior mesenteric ganglion. This is in accord with the idea that the stool, before expulsion, lies in the sigmoid and rectal ampulla. That the portion of the bowel concerned in evacuation is under control of a nervous mechanism, may be inferred from the fact that a person can establish almost any definite hour for regular defecation. A person can

sometimes restrain the stool without difficulty for several days. For the cause of constipation we must look to a peculiar nervous disturbance in the peristalsis, absorption, secretion, and sensation of the colon, or of that part of the colon supplied by the branches of the inferior mesenteric ganglion.

In constipation the feces are found in the colon and not in the enteron. This abnormality of the colonic innervation may be congenital, or acquired. Some individuals are constipated from childhood. A boy of fifteen came to my office a short time ago who had never had a stool from babyhood onward without a rectal injection, or some strong physic. By careful examination it appeared that neither the cerebro-spinal nor the sympathetic system was fully or completely developed. However, in a month, from physical procedures, select food, ample fluid at regular intervals, massage, rectal injections, vigorous riding and regular stool hours, we secured a habit of daily evacuation. Here, doubtless, the trouble was congenital—deficient and imperfect development. Depressing mental affections derange the regular bowel action. However, in constipation accompanying melancholia, or mental disturbances, it seems to me that it is impossible, at present, to decide which is the cause and which is the effect. To illustrate the influence of the nervous system over bowel evacuation, observe how a railroad journey, a change of locality, festival and change of labor, affect a constipated condition. Besides, autopsies of persons dead from other diseases teach that in constipation seldom can structural lesions be demonstrated. The chief features of habitual constipation tend to show that the abnormal condition must be sought in a neurosis of the colon (especially to the left colon, the sigmoid and rectum). The exact nature of the colonic affection is unknown. Another factor in constipation is that though the nervous system of the colon be fairly developed, yet the muscularis of the colon is not normally developed. There is atony of the colonic wall, well expressed by old Latin authors as *atonia intestini*. But in this case perhaps the colon muscular atrophy refers to the nerves, as they control the lumen of the blood-vessel, which is the real nourisher and instigator of function.

In regard to the relations of the skeletal muscles to the intestinal muscles, in constipation, we maintain that they are entirely independent of each other, except mechanically.

The subject with the most weakened and miserable condition of the skeletal muscles may be absolutely regular in bowel evacuation, or may suffer severe constipation. Of course, we must not omit the mechanical influence of the abdominal muscles in defecation. The abdominal muscles increase the intra-abdominal pressure, and thus aid evacuation, but it is not likely that they increase peristalsis. Perhaps, in general, the skeletal or intestinal muscles play but a small role in constipation. The matter lies closer to the nervous system.

Bouveret and Dunin have claimed that habitual constipation was a frequent accompaniment of general nervousness, especially of neurasthenia; that the neurosis was the cause of constipation, not the constipation the cause of neurosis. This idea is apt to prevail with most force among those physicians who, in curing the patient of the general neurosis, neurasthenia, have seen the constipation disappear. Fleiner asserts that stool retardation is due to spasmodic contraction of the colon segments, grasping their contents. This would make the trouble depend on the nervous system.

The mechanical conditions that induce constipation will not be here considered, except so far as their purely nervous mechanism and influence is concerned. Hence, such factors as strangulation by peritonitic bands and through apertures, and the mechanical difficulties of splanchnoptosia and pressure of abdominal tumors, are not here discussed. However, we must not overlook the obstacles placed in the way of the intestinal nerves by inflammation of any one of the bowel coats, or tunics, as peritonitis, or inflammation of the muscularis, or of the mucosa. As abdominal surgeons, we well know that acute peritonitis produces immediate constipation, checking peristalsis by edema, congestion and exudation, into one of the bowel tunics, especially the peritoneum.

The peripheral bowel nerve apparatus is deranged by pressure, infection and malnutrition. It may rapidly recover. But, doubtless, a crippled and defective condition frequently remains—non-mechanical. As a result of peritonitis or inflammation of any one of the bowel tunics, producing habitual constipation, we must especially examine the *flexura coli lienalis* and the *flexura sigmoidea*. Not infrequently the action of the distal end of the diaphragmatic muscles produces inflammation of the left colon, by inducing migration of microbes through muscular trauma.

Also the conditions disturbing the rectal nerves must be considered as causing congestion and results. In constipation we only include the colon segment supplied by the branches of the inferior mesenteric ganglion. It must not be supposed for one moment that peritonitis around the evacuating fecal depository is always recognized. Far from it, for in some six hundred recorded adult autopsies I found evidences of peritonitis in the peritoneum of the left colon in fully eighty per cent of subjects. In fact, in the mesosigmoid alone, there was about seventy-five per cent of peritonitis.

Constipation may arise in some persons from deficient or abnormally small abdominal brain, or from premature senility in the abdominal sympathetic, which innervates the gastro-intestinal tract; also from cerebro-spinal disease, which inhibits sources of energy. Exhaustion, mental or physical, is a potent factor in constipation. A deficient blood supply to the parenchymal ganglion does not invigorate it sufficiently to induce peristalsis. Exhaustion from over-exertion, excessive sexual action, or extra loss of blood, is a common cause of constipation in young women. Depression from disappointment, from death, from unrequited love, and many other causes, is quite apparent in the youthful, producing constipation—a purely nervous phenomenon.

Constipation in lead colic is a nervous phenomenon, apparent in the intestinal pain, and in the white ring-like contraction of the circular bowel fibers. The etiological factor is the irritation of the parenchymal ganglia of the bowel wall by the lead. Spasm, irregularity of inertia, characterizes the bowel in lead-colic, except in the etiology.

Violent and persistent constipation depends on perverted muscular action, peristalsis, absorption, sensation or secretion, due in general to some deficiency of nerve force. Colonic inertia may rest on deficient blood supply to the parenchymal ganglia, but this is directly under the control of the sympathetic, which holds sway over the vessel's caliber.

It must always be borne in mind that the size of the sympathetic differs very much in different individuals. When a small-sized visceral nervous system becomes impaired, as it easily will, its phenomena are not only marked, but difficult to correct. A large dose of digitalis slows the heart, and whether the spinal accessory or vagus, digitalis inhibits its action. Nothnagel suggests that opium works similarly on the splanchnics, *i. e.*, by slowing peristalsis.

The movements of the enteron are largely dependent on the amount of blood in the intestinal wall, *i. e.*, the amount of fresh blood which supplies the parenchymal ganglia.

In regard to antiperistalsis, in scores of experiments on dogs, rabbits, guinea-pigs, etc., I saw no such a phenomenon. The vomiting in ileus paralyticus or peritonitis may be due to simple contraction of the stomach on the enclosed contents, when the fluids pass through the esophagus in the direction of the least resistance. The monstrously large, wide cecum of herbivora, a vestigial stomach, as in the cow and horse, is emptied by peristalsis and not by antiperistalsis, as noted by Jreper. It may be that the peristalsis is increased in diarrhea, yet it may be just as active in constipation, but in this the colonic movements are vain and futile, from inability to force the contents into successive new segments, for an empty bowel is a still one, and a full bowel is an active one. Also active peristalsis will invite more blood into the bowel wall, which, in turn, induces active motion in the segments. Doubtless, herein lies the value of abdominal massage. Whatever checks the flow of fresh blood to the bowel wall slows peristalsis, and this explains the constipation of anemia.

The natural secretions, as the bile and the pancreatic fluids, are, perhaps, sufficient alone to stir up the parenchyma ganglia to action, with but little or no aid from the splanchnics. Hence, the inactive hepatic and pancreatic secretion, constipation may result. Consequent swelling of the mucosa from catarrh, in the bile ducts, may exclude the bile from other channels, which would deprive the parenchymal ganglia of their accustomed stimulus.

The relations of adjacent viscera and their condition may influence constipation. If the accustomed secretions, bile, pancreatic and gastro-intestinal, diminish, the bowel will not receive the impulse which the normal amount of secretions impart, and peristalsis partially fails. Diarrhea may be instigated by congestion, then by edema and, instead of infiltrating the bowel wall, the result may be rapid exudation and diarrhea.

Increased peristalsis, however, is not necessarily accompanied by increased secretion and exudation. The irritation which produces the peristalsis may so irritate the parietal intestinal ganglia as to lessen the caliber of the blood vessels and thus check secretion. In administering certain purgatives it is found that they are followed by watery evacuations. But this may be due to exalted peristalsis of the bowel, allowing insufficient time for absorption, *e. g.*, in times of quiet peace in the bowel secretion and absorption balance each other; but if segments of the bowel become irritated by cathartics, the secretions may become very much increased. Yet, owing to the vigorous peristalsis the fluids are rushed distalward, not allowing sufficient time for absorption.

Constipation is generally a form of neurosis, which may partake of a sensory, motor or secretory nature. It may, however, have a complex course and origin. Constipation is a condition in which the colon is not evacuated daily, except by the aid of evacuants, rectal injections or physical procedures. The great majority of the human family having a daily bowel evacuation establishes the normal frequency at once a day. Exceptions to this rule may be observed in certain individuals who have two stools daily, others one stool in two or three days, while again Pick reports patients who have one stool a week. A doubtful report was made by Dr. Robert Williams, where a woman had four bowel movements a year, three months apart.

This irregularity or deviation from normal defecation, need not necessarily be based on demonstrable pathological conditions. In constipation we have several elements to consider, the mucosa, the muscularis, the blood-vessels, the serosa, and the nerve supply.

Perhaps the greatest etiological factor of constipation is enteritis, catarrh of the colonic mucosa. This would involve the secretory nerves. In fact, catarrhal diseases of the colonic mucosa are the active factors in ever-changing forms of constipation and diarrhea, which, doubtless, involve the secretory nerves more than the motor nerves. Of course, the regularity of stool depends very much on the quality and quantity of food ingested, for if the food leaves no residue it will conduce constipation, for the greatest of all stimuli to colonic motion is food in contact with the intestinal mucosa. The peripheral nerves of the intestinal mucosa receive impetus and sensation from the analward moving fecal remnants.

(To be continued.)

[Written for the MEDICAL BRIEF.]

The Ascent of Man.

BY GEORGE F. G. MORGAN, B. D., M. D.,
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Dr. Gibson, of Los Angeles, had an article in your January, 1906, issue on "The Ascent of Old Age." It was an excellent article, and one that, if taken as the keynote of today's pulpit utterances, would renew the people's interest in the preacher's power and popularity. The last two paragraphs on page 54 deserve a wider field of influence than even your widely-circulated periodical can give them. These paragraphs breathe a spirit of intelligent obedience to the physical, mental, and moral laws of our being. In and by this obedience mankind shall arise to its highest and best self—the *divinity of natural law.*

[Written for the MEDICAL BRIEF.]

Feeding of Infants.

BY IVY E. HANCOCK, M. D.,
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After looking over the late statistics of the diseases and mortality of the small children, of which I will give first, I would like to give my readers a few points on the feeding of an infant, from birth to its weaning time, which is usually from the twelfth to fifteenth month.

These carefully-collected statistics show beyond a doubt that the most active cause of infantile diseases and mortality is mostly due to improper feeding; or of feeding a child food that does not agree with it, and it being unable to assimilate the various elements of the food to keep the child in a healthful and normal condition.

This is only too truly realized when the facts show us that nearly one-third of all the babies die before the age of five years, also that children make up one-tenth of our population, and nearly one-half of the death list of our large cities are of infants and small children.

Nearly two-fifths of all diseases belong to infancy.

These startling facts, which seem very sad indeed, have awakened a great desire among physicians to learn more about children in infancy, their management, feeding, and the preventing, as well as the treatment, of their diseases, and there is being more stress put on the young infant's diet, of which milk is the natural and proper food for an infant until the twelfth or fifteenth month.

Nature's way is to furnish the infant's milk through the mother's breast, and I must say it is quite a misfortune if a baby can not be fed this way for the first few months of its existence. But, often on account of the mother's health, or various other conditions, the child can not be nursed from the mother's breast, and then comes the tug of war, to substitute a food equal to nature's means of furnishing nourishment, containing all the elements which a child must have to make its early development.

It is worth while for a mother to try various means of furnishing this life-giving fluid for an infant before resorting to the bottle-feeding system.

Sometimes a mother will give enough milk in quantity, but not rich enough in quality. This can sometimes be overcome, or modified, by looking after the mother's diet.

A mother's diet should always be nourishing and wholesome, avoiding stimulating drinks and irritating foods, for those things which disturb a mother's system will, with a corresponding influence, disturb an infant's system. Sometimes an infant will be more sensitive to the influence of these foods than the mother.

A mother's diet should consist of a certain amount of meats, vegetables, fruits, and cereals; some vegetables, such as carrots, peas, and onions, should be avoided, as they have a tendency to give an infant the colic, or various forms of indigestion.

In feeding an infant from an infant's nursing bottle, I first wish to speak of the care of the bottles, as this means so much toward an infant's health. The bottles and rubber caps should be kept thoroughly clean and sweet, they should be washed, using soda or saleratus in the water to keep them freshened, and scald them twice before using. It is well to keep the bottles and rubber caps standing in a weak solution of soda water, and then rinse out with hot water before using.

The liquid food for a baby's bottle consists mostly of cow's milk; it should always be diluted one-third to one-half, as it contains more fat than a mother's milk, and it has a tendency to curdle in an infant's stomach, it not being strong enough to take care of it.

An infant should always be fed with the milk from one cow, and this should be tested once in a while by some reliable chemist, for all cows milk is not good, and a cow that has been milked for several months is not good, like a fresh cow. It is best to dilute the milk with water off of barley that has been cooked from six to eight hours. Of course, this can not always be kept ready, and when not dilute with sterilized water, using a teaspoonful of limewater to the bottle of food.

For an infant who has constipation, it is best to feed it twice a day by diluting its milk one-half with water off of rolled

oats, or oat meal that has been cooked several hours in a double boiler.

In most cases this will regulate their bowels; it is also good to use the water from oats when an infant has a cold, as it helps very much toward getting it under control.

One should be very careful of over-feeding an infant, although its stomach is so constituted that a surplus of food can be easily expelled, but at the same time may result in an attack of indigestion, and to feed an infant too often will cause indigestion also.

For the first three months an infant should be fed every two hours during the day, and twice during the night. After three months of age they should not be fed so often during the day, and quit feeding them at night.

Feeding a child after this age at night, or too frequent feeding during the day, is not only unnecessary, but exceedingly harmful. An infant should be taken from the bottle, or mother's breast, when it is satisfied; this over-feeding causes vomiting, indigestion, and upsetting the child in general, by making it irritable, cross, and restless in its sleep.

A child should never be fed at any age after a big cry, as its stomach is in no condition to take care of the food at this time. Early table feeding is a great evil. One should not commence feeding a child at the table until about the tenth month. In the first place it has not the teeth to chew its food; second, it has not enough saliva to masticate its food, and, third, its stomach is not strong enough to digest the starchy elements which are given it.

The rashes, skin diseases, and various bowel troubles of children are most always caused by indigestion, which causes colic, and various other disturbances.

So, therefore, let us be more careful, and use more judgment in regard to an infant's diet, and modify or do away with these existing disturbances of infancy, which seem to be inevitable.

I have read the MEDICAL BRIEF carefully; enjoyed the articles. It is a splendid magazine.—THOS. C. WHITMAN, M. D., Myrtle, Fla.

[Written for the MEDICAL BRIEF.]

Choledocholithiasis.

BY M. R. BARKER, M. S., M. D.,
Chicago, Ills.

The common duct, like the gall-bladder, has a frame of fibrous tissue, through which are interspersed scattering fibers of muscular tissue, and over the inside of which mucous membrane is spread. It is not connected with any special nerve apparatus. It is continuous, at its upper end, with the hepatic ducts, and through them with the biliary passages in the liver. At its lower end it is attached to the duodenum through the ampulla of Vater. The ampulla of Vater is a small pouch lying between the mucous and muscular coats of the duodenum, into which empty the common duct, and the pancreatic duct, independently. This pouch empties its contents into the duodenum through a small opening, or valve-like mechanism, known as the papilla. The ampulla of Vater is a very important structure relative to choledocholithiasis. The physiology of the common duct is simply a canal, or tube, through which the bile passes from the liver to the intestine. The only force used by nature, here, to convey the bile through this tube, is its own pressure. In other words, the contents of this duct are not forced through it by a rhythmical motion due to reflex nerve action, but by hydrostatic pressure. It is a duct having comparatively inelastic walls. We can understand how a rigid tube serves the purposes of hydrostatic pressure better than an elastic one would. The bile passes through the papilla in jets and intermittently. From this we know that the walls of the common duct are not, at all times, subjected to the same tension. When a certain pressure is reached, relief comes by the valve in the papilla opening and a part of the contents of the duct being ejected into the duodenum, after which the valve closes, and again opens when sufficient pressure accumulates. The provision of this valve, by nature, is doubtless to prevent, as far as possible, the entrance of intestinal contents into the duct, while this alternate pressure and rest, within

the duct, preserves its tone and prevents an abnormal dilatation, which would probably take place if the tension were constant.

Gall-stones may form, in a normal gall-bladder, for the reason that the conditions, causing stagnant bile there, are out-

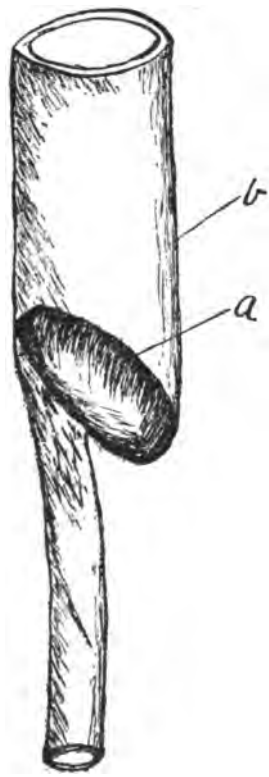

Fig. 1.

a. Stone occluding common duct by extending across it.
b. Dilated portion of common duct.

side of the gall-bladder itself. Such conditions do not exist, however, in the common duct; hence, gall-stones can not form in a normal, common duct, unless in the ampulla of Vater, and probably very seldom there, as it lies within the intestinal wall, and bile gathered at that place would be subjected to too much agitation to form stones. A stone may be carried through the cystic duct (as described in a previous paper), lodge in the ampulla of Vater, and grow by additional accretions. Or, a stone may form in the biliary passages within the liver, be carried into the common duct, lodge in the ampulla of Vater, and grow as above. Or, stones may form in abnormal diverticula of the common duct, lose their place, drop into the common duct, and lodge in the ampulla of Vater. Any of these conditions are possible, and do happen. When a stone becomes located in the ampulla of Vater, and becomes large enough, it may perform in different ways: It may partially occlude the outlet of the common duct, all the time; or, it may wholly occlude it a part of the time; or, it may totally occlude the duct all the time. Fenger, long ago, demonstrated that stones located here may act as a ball-valve, some of the time being buoyed up by the flood of the bile, at which time the bile flows around them; the lumen of the duct not being obstructed, again the stone settles down and closes the outlet.

Gall-stones can not form in a normal, common duct, except in the ampulla of Vater, for the reason that in such a duct there is no place for stagnant bile. Hence, if gall-stones form, the duct must, in itself, be abnormal. From the nature of the wall of this duct, and from the constant internal tension, it is obvious that if it is dilated, at any point, it will remain dilated, especially if the dilated portion becomes a receptacle for bile. In other words, the internal pressure may dilate a weak point, causing a pocket or diverticulum, in which bile accumulates, becomes stagnant and produces pressure, thus preventing the pocket from contracting, the wall from becoming normal, and producing all the conditions suitable for the formation of calculi. The stone, after forming in a diverticulum, does not always drop into the lumen of the duct, but sometimes remains in the pocket, and grows by accretions until it extends across the lumen, thus closing the duct. In other words, one portion of the stone remains anchored in the pocket, while another portion gradually grows across the lumen of the duct and so closes it. (Fig. No. 1.) Or, the stone, constantly receiving accretions and growing in weight, causes an elongation, or deepening of the pocket, the stone being brought against the side of the duct, thereby occluding it. (Fig. No. 2.) Or, the constantly-growing stone may cause a bending and looping of the entire duct, and so close its lumen in this

way. (Fig. No. 3.) As the occlusion becomes more and more complete, no matter where the obstruction may be, the duct above it dilates, by reason of the tension in it, and does not contract, owing to its non-elasticity. Sometimes the dilatation is enormous, being so distended as to admit two or three fingers. It is true that these deformities, throughout the common duct, do not often happen, therefore, calculi of the common duct are most frequently found in the ampulla of Vater, which is a natural and ever-present pocket for the lodgement of stones passing through the duct.

Choledocholithiasis is a frequent condition, not nearly so common, however, as cholelithiasis. It is more frequently found in connection with cholelithiasis than alone. Choledocholithiasis, we believe, in most cases, to be an accident. The common duct is the dumping-ground for the liver and gall-bladder, and small stones thrown into it from either of these sources, if too large to pass through the papilla, lodge in the ampulla of Vater, or in some abnormal pocket along its wall, and there grow until they produce their peculiar lesions. We believe the primary formation of gall-stones, in the common duct, is very rare, though it may happen.

Gall-stones formed in the gall-bladder, or common duct, are essentially cholesterin stones. In a previous paper we stated that we believed two conditions were necessary for the formation of gall-stones. First, the bile must be stagnant; and, second, a disproportion between the normal constituents of the bile must exist, and thus a loose compound, or mixture, is formed, from which the superfluous cholesterin was precipitated. It has been shown, by physiological chemists, that cholesterin may be formed by the action of an attenuated toxine of pathogenic germs acting upon the protoplasm of cells. From these facts it has been reasoned that the superfluous cholesterin, in bile, from which gall-stones are formed, is produced in this way. The same toxine, were it not attenuated, would produce infection, but when attenuated it produces cholesterin, especially when acting upon columnar epithelial cells, which cells abound along the biliary passages.

An interesting question arises: Normal bile contains a certain amount of cholesterin. Bile is a liver product, and not a useless excretion. If the superfluous cholesterin in bile, which is liberated and forms gall-stones, is produced in this abnormal manner, it is a useless excretion. In other words, it is an abnormal product, from cells, produced by the action of a toxine upon them, and thrown off as waste matter. Is the cholesterin, which forms a part, or is one of the constituents of normal bile, produced in this way? Or, are there two methods of producing cholesterin in the liver, one normal and the other abnormal? And why should that which is produced abnormally, and is a

Fig. 2.

a. Stone occluding common duct by lying against its side.
b. Dilated portion of duct.

waste product, be mixed with the bile and conveyed from the system, in the bile, instead of in those channels whose function it is to convey such waste materials out of the system? It is hardly conceivable that the laws of nature should be dis-

regarded in so important a matter, for if the above is true, and this waste product were conveyed from the system, through the lymphatics, there would be no such thing as gall-stones. It is easier for us to believe that at times, and under certain unknown conditions, the liver produces, in a normal way, too much cholesterin, and that the over-production is not a part of the bile, but is mixed with it and under proper conditions is precipitated, and forms gall-stones. Of course, there is no reason why cholesterin, produced in one way, should not mix with the bile, as well as that produced in another way.

The interesting thing is, that nature should allow a waste product to mingle with a useful product, and greatly to the detriment of the system. In cholelithiasis pain is a predominating symptom, due to dilation of the gall-bladder, and consequent stretching of the peritoneum. In choledocholithiasis the conditions are not the same. The peritoneum is not a covering of the common duct, hence when this duct dilates, the peritoneum is not stretched and pain is not marked. There may be a very large stone in the common duct, with enormous dilatation, and yet no pain produced. We are now speaking of uncomplicated choledocholithiasis. If inflammation, with peritoneal adhesion complicates, then pain results, due to the inflammation and adhesions.

Choledocholithiasis is a far more serious condition than cholelithiasis. This is obvious by reason of the fact that cholelithiasis does not, in any way, interfere with the free passage of bile from the liver to the intestines, while choledocholithiasis produces its dire results upon the general system, because it wholly, or in part, occludes the lumen of the common duct, and prevents the passage of bile through it. Three serious conditions, with their consequent lesions, are produced, outside of the common duct, by choledocholithiasis, which are not produced by cholelithiasis, viz., enlargement of the liver and disarrangement of its functions, due to damming the bile back into it. Digestive disturbances are due to the absence of bile from the digestive process, and hepatogenous cholemia is due to the absorption of bile into the blood. These conditions are all more or less serious, according to the occlusion of the common duct. All of these conditions may be present, to an alarming extent, without any local manifestations, the conditions being due to an uncomplicated choledocholithiasis.

The symptoms of this condition are jaundice, and that long chain of symptoms due to disturbed liver, digestive and vascular functions, and, as before stated, they vary in severity according to the degree of occlusion of the common duct. As stated before, and for emphasis here, this condition occurs most frequently in connection with cholelithiasis, under which circumstances the symptoms of the latter condition are added and pain is prominent.

The most frequent complications of this trouble are cholangitis, with peritoneal adhesions; perforation of the walls of the common duct into the duodenum, or into the peritoneal cavity, and cancer, due to long-continued traumatism of the calculus. All of these conditions are quite common, and probably most frequent in the order named.

The treatment of choledocholithiasis is always surgical. As quickly as a diagnosis can be made, an operation should be performed and the stone removed. Owing to the varied symptomatology, which is produced by the obstruction of the flow of bile through the common duct, the surgeon may not be able to make a positive diagnosis. We may state here that the X-rays have not proven of great value in diagnosing biliary calculi. In cases of doubt, recourse to exploratory incision should be had. A case of choledocholithiasis should not be allowed to go on until the patient becomes extremely jaundiced, and suffers from such a degree of cholemia that, from this condition alone, he is a bad surgical risk. Neither should one be condemned to die of cancer of the common duct without an exploratory incision, for that diagnostician has not yet been born who can always make a positive differential diagnosis between chronic obstruction of the common duct, due to cancer or calculus. Both may so reduce the strength of the patient, and produce such a degree of cachexia, that a positive dif-

ferential diagnosis would not be undertaken, at all times, by any wise, careful and conscientious man.

It is far better to make an exploratory incision, in aid of diagnosis, while the patient is in an operable condition, than to wait, before operating, to confirm a doubtful diagnosis, by physical signs and symptoms, until the patient is in a desperate condition. The dangers from secondary hemorrhage, in these cholemic cases, is not the only, nor the greatest, danger. There is, in a certain per cent of these cases, a peculiar susceptibility of the central nervous system, to a certain toxic condition, produced by the operation, or the anesthesia, which, operating through the blood, probably produces a peculiar symptomatology, and fatal termination, in two or three days after the operation.

Thirty cases are compiled from the literature, and one case reported by Bevan and Favill, in *The Journal of the American Medical Association*, Vol. 45, p. 691, in which this condition is portrayed, and in which cases the anesthesia is made responsible, especially chloroform, for the fatal results. While these cases were not all primarily liver cases, the autopsies showed that a diseased condition of that organ, attributed to the action of the anesthetic, was the cause of death. If the anesthesia, or some other agent due to the operation, may cause such dire effects upon a normal liver, how much more danger there must be when the liver is diseased, or in cases of cholemia. We wish here to report a case that we believe belongs in that group of cases, compiled by Bevan and Favill.

Mr. P., aged fifty years. History negative up to two years previous to July 15, 1905. At that time had hepatic colic, which was followed, during the year, with several similar attacks. About six months before the above time he developed symptoms of cholecystitis, accompanied with jaundice. The symptoms of cholecystitis abated in time, but the jaundice continued, and was marked, all the time. Pain was also constant. He had markedly decreased in weight. On July 15, 1905, I operated on this patient. The only pathology found was extensive adhesions of the gall-bladder to the transverse colon, pyloris, and common duct. The adhesions had so pulled upon the latter as to bend it at a right-angle, thus obstructing the flow of bile through it; hence, the jaundice and cholemic condition. When I first saw this patient I was in doubt as to the diagnosis. In my judgment it was one of three conditions: Extensive adhesions due to inflammation, cancer, or calculus in the common duct, precedence being given to these conditions as named.

The adhesions were broken up and the gall-bladder drained in the usual way. The patient recovered from the operation, without shock, was not nauseated, and experienced no *post-operative* troubles.

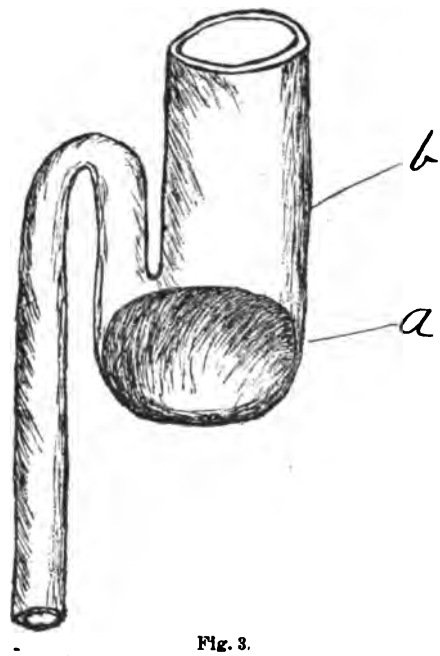

Fig. 3.
a. Stone occluding common duct by forming loop of duct.
b. Dilatation of common duct above stone.

The first thirty-six hours passed in this way: Pulse, temperature and respiration practically normal. At about this time the patient awoke with a convulsion, lasting only a moment. The pulse became accelerated to one hundred and sixty beats a minute, and the temperature rose to 106° F. in one hour. The patient passed into a state of coma and died in a few hours, the temperature reaching 107°

F. before death. No symptoms of infection were present. The anesthetic used was A. C. E. mixture. This was eminently a case wherein some unknown toxic agent acted upon the central nervous system, causing death. This toxic agent was, we believe, an evolution from the cholemic condition, excited by the operation. Of course, we can not say the anesthesia was not responsible. While this case was not one of choledocholithiasis, the conditions produced were the same, viz., the occlusion of the common duct, damming the bile back into the liver, with consequent lesions.

Operative technique. The same incision is used as in cholelithiasis. The common duct may be exposed by:

1. Elevating the liver and making tension upon the gall-bladder. This will usually succeed if there are no adhesions.

2. Locate the foramen of Winslow, introduce into it the first two fingers, with the thumb in front and on the outside, and make traction. This will always locate the common duct. Sometimes, however, this foramen is occluded by inflammatory products and can not be utilized.

3. Follow the duodenum to the point where the ampulla of Vater empties into it. If the stone is found impacted here, an attempt should be made to remove it through an incision in the common duct. If this fails, choledochoduodenostomy may be done. In other words, the duodenum is opened opposite the stone, and an effort made to dilate the papilla and force the stone through it. If this fails, then it must be removed through an incision of the mucous membrane of the duodenum covering the stone. If all of these measures for exposing the common duct fail, for many reasons, the surgeon will be compelled to dissect the tissues and expose the duct in that way. To do this the gall-bladder should first be exposed, then follow it to the cystic duct, and the cystic duct to the common duct. One entering the abdomen, to do work upon the common duct, would better be prepared for a task, or he may be disappointed. There is no more difficult surgery than that connected with the common duct. When the duct is found, and the stone located, the duct must be delivered, as nearly as possible, into the abdominal wound. With care and patience, it is surprising what can be done. This deeply-located structure may be brought up, many times, so that it may be manipulated with ease. The duct must now be surrounded with gauze, incised longitudinally, over the stone, and catgut sutures applied before the stone is removed—the stone greatly facilitates placing the stitches. The stone is then removed, between the stitches, and the sutures tied. If the surgeon wishes to drain the biliary passages through the common duct, the stone is removed, a drainage tube inserted into the duct, and retained there. It is surrounded with strips of gauze, and all brought out through the abdominal wound. Some, however, prefer to close the opening in the duct and drain through the gall-bladder, in which case the fundus of the gall-bladder is stitched to the parietal peritoneum, the fundus opened, and a drainage tube inserted, the same method being used for draining the gall-bladder as for any other condition. If the latter method is used a drainage tube, surrounded with gauze, must extend from the wound in the common duct through the abdominal wound. After work upon the biliary passages, drainage is very important.

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[Written for the MEDICAL BRIEF.]

On the Treatment of Acute Lobar Pneumonia.

BY GEORGE W. SMITH, M. D.,
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This is a subject that has been discussed for generations, and now comes the statement from Dr. Bishop, in the February number of the BRIEF, that the scientific treatment of pneumonia is as much a thing of the future as ever. Fortunately, however, opinions differ on this subject. It seems to me that the allopathic school is spending entirely too much time searching pathology, and looking for microbes and bacteria, and spending too little of their time along the lines of therapy.

Our patient does not care what we know of pathology and bacteriology. He wants

relief, and will call the physician who can relieve him. It is very essential that every physician be thoroughly versed in the pathology of every disease; indeed, it is an absolute essential, but to be a successful practitioner of medicine it is even more essential that he knows what to do for his patient when called to the bedside. Pneumonia is a disease of short duration, and the physician must institute treatment at once.

Dr. Bishop says "that the man who claims a specific treatment is the man whose experience is, by accident, limited to those cases which have a tendency to recover." We, as eclectics, do not claim to have a specific agency, or drug, for any one disease, but we do claim to have specifics for certain symptoms and conditions.

If Dr. Bishop will take the time and trouble to read Dr. J. M. Scudder's Practice, of 1891, and also Dr. R. L. Thomas' Practice, which is just out, he will see that the eclectics treat pneumonia with a mortality of from one to three per cent. Dr. A. A. Stevens gives a mortality of twenty per cent, Dr. Osler of twenty to forty per cent. The eclectics treat pneumonia with a mortality of one to three per cent. This is quite a difference, but, nevertheless, it is a fact. I have practiced medicine for eight years, and have never lost a case of pneumonia. I have treated cases from one year old to eighty-four years, and they were not all mild cases, by any means, and I have my first case to lose. I claim to have had my share of pneumonia with other physicians in the community in which I have practiced. I fail to see why I should have the luck to get cases that all have a tendency to recover. I presume that, sooner or later, I shall lose a case of pneumonia, but I shall try to keep my mortality as low as three per cent.

Dr. Osler says, "Our chief weakness lies in our inability to combat the toxemia." The eclectics are not looking for drugs to combat the toxemia; they administer drugs to relieve the congestion, and favor absorption of the exudate in the air cells and alveoli, and as a result of our labors we offer this low mortality. Now, I claim I am fair in my comparison of the two schools, in treating pneumonia, having practiced the allopathic system three years, and being very closely associated with that system of medicine. I have tried to be impartial in comparing the results. As an eclectic I am always looking for the best, no matter from what source it comes. I am honest in my conviction when I claim that the eclectic system of treatment in pneumonia is far superior to all others.

We, as eclectics, believe in giving drugs for their physiological, and not a pathological effect. Therefore, we give them, in small doses, and at frequent intervals. Dr. Dunglison says: "Every judicious physician must be an eclectic, in the sense that he selects from every source the best means of controlling disease."

Not long since I had a conversation with a prominent allopathic physician, and he made the statement to me that all the medicine he ever learned he got in an eclectic school; but, said he, "we have no use for the eclectic school, the allopathic system is broad enough to cover all." I must confess I was both amused and chagrined. I attempted to explain to him why I thought the eclectic system had a right to an existence, but it was useless. There are those who will take issue with one on any subject, and I considered him as one of that number, and we closed our conversation, so far as the two systems of medicine were concerned. I thought, like Burns:

> Ah! what power the giftie gie us,
> To see ourselves as ithers see us.

We are glad that we have had a fight for our existence. History teaches us that competition in any business, or profession, tends to make each side strive to excel the other. Had it not been for the active fight put up against the eclectic system they would not today be what they are; therefore, we feel we owe a debt of gratitude to the allopathic school, who a few years ago waged so active a fight against us.

The first pathological condition we find in pneumonia is a congestion, or engorgement of the lungs. The blood vessels are filled with blood, and soon the air cells and alveoli are filled with an exudate. Now, any drug that will act as a sedative

to the heart will relieve the engorgement of the lungs, and no drug, when properly employed, will do this quicker than aconite or veratrum viride. Aconite ten drops to four ounces of water, one drachm every half to one hour, or, if I use veratrum viride, fifteen to twenty drops to four ounces of water, one drachm every hour. We give aconite when we have a small, quick pulse, the skin dry and hot, secretions suppressed, chills when the body is exposed to the air. We give veratrum viride when we have a full, bounding pulse, fullness of the capillaries, face and skin flushed.

If the cough is dry and painful, we combine with the aconite, or veratrum viride, specific tincture of bryonia, ten to fifteen drops. If the patient is very nervous, face flushed, eyes injected, pupils contracted, we combine with either of the sedatives fifteen to thirty drops of specific tincture gelsemium.

If there is much pain (and there usually is) in breathing, pain of a sharp, cutting nature, we give specific tincture asclepias, twenty to thirty drops, in four ounces of water, one drachm every one or two hours. If the cough is very troublesome, and the patient unable to raise anything, we combine with either of the sedatives, ten drops of specific tincture lobelia. We very often have an indication for another drug, and that is the small, sharp pulse, with pain in the left side of the head. In the child there is the sharp cry during sleep; the child will start, or jump, in its sleep, as though scared. In cases of this kind specific tincture rhus toxicodendron is an excellent remedy.

When the sputa becomes markedly rusty, here specific tincture phosphorus is specifically indicated, and will be of great benefit; ten drops in four ounces of water one drachm every one or two hours. In some cases there will be pain between the shoulders, and at the occiput; here specific tincture sticta, fifteen to twenty drops, in four ounces of water, one drachm every hour, will be of benefit. If there is much muscular soreness we give specific tincture macrotys, ten to fifteen drops, in four ounces of water, one drachm every hour.

Dr. Bishop says: "Up to this time we have no treatment that can directly influence the pathological process." We claim, and have claimed for thirty-five years, that aconite and veratrum viride, when used as we use them, will directly influence the pathological process. He mentions the use of these two drugs, if one is accustomed to using them. I will say that I have administered aconite from the onset to the termination of pneumonia, or as long as the temperature was above normal, and I have never seen any bad results from it. If it is given in large doses we can expect to have trouble, but it should be given in small doses, and at frequent intervals, when it will reduce the number of heart actions, and thereby strengthen it.

Local applications do a great amount of good. We believe that the mush jacket does harm in all cases, as it is quite a weight on the chest, and it will get cold if not changed frequently. What we need in these cases is something that is irritating, so that it will bring a greater amount of blood to the surface. The old compound powder of lobelia and capsicum, dusted on a cloth spread with lard, or vaseline, and applied to the chest, is an excellent thing. We make use of an ointment composed of ginger, capsicum, menthol, camphor gum, and vaseline; spread on a flannel cloth and apply over the seat of trouble. Let it remain for eight or ten hours, then renew it.

We have also derived great benefit from the use of a mustard plaster. Let it remain long enough to make the skin red, but not blister. This will assist materially in relieving the pleuritic pain, which is so aggravating, and prevents the patient from obtaining much-needed rest and sleep. If the temperature is high, with a severe headache, the application of warm water to the face with a sponge, at the same time fanning the patient, will reduce the temperature and relieve the headache.

The diet should consist of milk and broths, and, as the patient improves, gradually increase the diet. The bowels should be made to act every day by a mild saline cathartic.

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[Written for the MEDICAL BRIEF.]

Medical Wonders and Medical Blunders—A Story of Facts.

BY M. J. RODERMUND, M. D.,

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"Truth cannot shine until the curtain of Ignorance Is raised and pinned by the star of Wisdom."

CHAPTER I.

AS-IT-IS.

Certainly one of the noblest advantages of man is to reason, to examine proofs and weigh motives, to consider an object on every side, to combine the various arguments that are alleged, either for or against a proposition in order, on these grounds, to regulate our ideas, opinions, and form a correct judgment.

I believe all physicians, as well as the public, will agree that there is nothing new under the sun; hence, the truth in science only means to discover nature "As-It-Is."

Until nature's law is demonstrated, "As-It-Is," false knowledge, wrong theories will continue to develop wrong customs, wrong notions, and false teachings. The true and honest physician, as well as the public, have the overweening ideas of the importance of discovering the truth in nature "As-It-Is," even though for a time strong opposition is manifested when an attempt is made to show that an accepted doctrine which has grown into a custom and fashion is wrong, and injurious to the health and life of the public, and true medical science.

The facts that are explained in this article, and those to be explained in the series, can not be overthrown, they can not be killed, nor can they be made to surrender. Although they will appear revolutionary, they have always existed, always will exist, and will be described just "As-It-Is."

We have made too many *errors* by mistaking our *beliefs* and *education* for *knowledge*. A belief is only a confession that we do not know. We have done too much theorizing in the past, and have judged too much from what we can see on the surface.

CHAPTER II.

(Copyrighted.)

THE POWER THAT RUNS THE WHOLE HUMAN MACHINERY IS TAKEN FROM THE AIR WE BREATHE—OXYGEN FROM THE AIR IS WHAT CAUSES THE BLOOD TO CIRCULATE IN THE BODY.

The experiments to prove that the oxygen from the air is the element which makes it possible for the blood to circulate are made in the following manner:

Take a large animal weighing about three to seven hundred pounds, first giving the animal an anesthetic, then laying bare the large blood vessels and their main branches leading from the heart to the end of the toes, hanging the animal up by the hind legs, then ligating both of the large blood vessels that bring blood to and from the heart. This completely cuts off the heart from the circulation of the blood below the diaphragm, and the result is that immediately all of the arteries are empty, the blood flowing straight upwards for four or five feet.

This certainly would be impossible if the heart had the control, or anything to do with the circulation of the blood. This demonstration proves beyond a question of doubt that the heart does not circulate the blood, but it does not prove what does circulate the blood.

The animal was taken down and placed upon a table, the arteries being completely empty. I then proceed to transfer the blood from the veins, completely filling the arteries with this venous blood. Now, both the arteries and the veins are filled with venous blood. The blood now fails to circulate, no matter how much force is used.

Because the fine net work of the capillaries between the veins and arteries is very complicated. But, under the microscope, the blood corpuscles can be seen to pass in and out through these minute vessels. Yet these minute blood corpuscles seem to know their business, and keep on nourishing the body, whether we understand their exact business methods or not. This process of the blood going on in the capillaries is a wonderful piece of nature's handiwork, and some day may be better understood. For practical purposes, however, it is of little importance, but the

blood can not circulate in the body without attractive, or electrical force.

By emptying the arteries of the venous blood with which I had filled them, and by removing my ligature near the heart, the arterial blood continued its normal flow from the lungs through the heart, and the circulation was again complete. When I compelled the animal to breathe impure air (artificially) the circulation of the blood would become less forcible and sluggish. It also became darker. This is due to impurities (carbon dioxide), and the lack of sufficient oxygen.

Yet, I will prove in the next chapter, when I explain what I deem a much more important discovery, that these impurities were not taken into the blood from the impure air, but that the breathing of impure air, containing poor quality, or quantity of oxygen, causes the retention of the impurities in the blood that are eliminated by the lungs and other organs when breathing air of good quality. This law and function of the body will receive its more thorough explanation when applied to the causes and the prevention of disease.

These experiments positively refute the assumption made by physiologists that the heart and muscular contraction of the arteries causes the blood to circulate in the body. They also prove that the circulation of the blood is governed by the law of attraction, affinity, electricity, or call it what you will.

I will give a few inductive reasons, and show how nicely they harmonize with the above demonstrations, but have hitherto been unexplainable. Take, for instance, the fetal circulation before any real heart exists, and especially the circulation from the placenta (afterbirth) to the child *in utero*. In fact, it was the observation of the fetal circulation which gave me my first thought, and it was the nucleus which formed the theory that the circulation was caused by an electric, or attractive force.

Then we have the fluids circulating through the glandular and lymphatic system, without a heart.

Another example is the sap circulating in a tree, which has no heart to pump it.

It proves why we feel so loggy and sluggish in muggy and hot weather, and immediately begin to feel brisk and exhilarating in a cool breeze. This is due to the difference between the quality and quantity of the oxygen of the air per volume; also, the result of the expanding and contracting of the air by heat and cold.

The very size of the heart itself refutes the idea that it could accomplish such a heroic task as circulating the blood, as, all things equal, size is a measure of power. Think of a two hundred-pound man sitting between board and bone, and you will readily see the impossibility of the blood being able to circulate, if it had not a powerful attractive force.

The reader can plainly see that I have not presented a *theory*. I have simply explained what most any one with a little practice can demonstrate for himself upon a living animal.

A little reflection will make it appear plain that no machinery would stand the terrible strain that it would take by an organ to pump the blood throughout the body. Nature has provided a more rational means, and not so liable to derangement, as well as not contradicted by every law of nature.

These facts just reverse our present opinions and beliefs as to the cause of disease. I will just give one little illustration: Our soldiers at Chickamauga Park, during the war with Spain, were composed of about fifty thousand of the physical cream of our young manhood, selected from all over the country. General Alger was given the blame of furnishing these soldiers with poor and adulterated foods, and to this was laid all the blame for the terrible amount of sickness among those strong and healthy men. Yet, there would be no doubt that if these very men were placed under similar conditions in northern Wisconsin, and given the same food, they would generally be healthy and flourish, for the identical same reason that feeding a stove or furnace with good fuel, but not receiving the necessary amount of *oxygen* to burn it up, the fire would be poor, and produce much more smoke, ashes, and clinkers. These soldiers being taken away from a colder climate, to which their system was adapted, and by

being placed in this sudden warm atmosphere, the sudden change would have about the same effect upon the human furnace as it would upon an artificial one.

CHAPTER III.

(Copyrighted.)

NO IMPURITIES, POISONS OR GERMS CAN BE TAKEN INTO THE BLOOD OR SYSTEM FROM OUR SURROUNDINGS.

The truth of the opening statement of this chapter I have demonstrated beyond a question of doubt, *that no impurities or germs can be taken into the blood from our surroundings.* When the meaning of this natural law of the body is once understood, it will clear up more false theories and practices, and will be of greater benefit to humanity than any discovery made in physiology in centuries. This one sentence alone absolutely overthrows every fundamental principle taught and believed by the public, and orthodox physicians for centuries, and has cost more lives than crimes and wars.

All true science must be based upon this foundation of nature's laws. I have not evolved a new theory in my own brain. My proof will be made so plain that anyone with reasoning faculties can comprehend them. In fact, the proofs can be shown so as to be seen with the naked eye, and be understood by anyone.

I will now go right into the subject and show how I happened to hit upon this valuable discovery, and how I prove and demonstrate that it is correct.

My first experiments were the attempt to produce consumption, or tuberculosis, in the living animal from the germs and poisons of other consumptive animals. I took the substance of consumptive lungs, and by the use of a tube, air tank and pump, forced these poisons and germs directly into the lungs and air tubes, and waited for results. I would keep these animals under observation from a few weeks to months, and in several instances from one to one and one-half years, but instead of the animal coming down with the disease, I found them thriving and flourishing in the best-possible manner.

These experiments were performed to support the claim of authorities that germs and poisons of consumption, or any other form of poisons in the air, would be taken into the blood through the lungs by breathing. I also believed that impurities and poisons could enter the blood through the lungs by breathing, and thus produce disease. This very belief was what first convinced me that if diseases were really contagious there was no possibility to stop disease from spreading, but that they do stop spreading is true. This fact convinced me that some other cause must be the reason for the spreading of epidemic diseases, and that it was not due to contagion.

To find this cause has been the work of nearly the whole of my medical career. My work has been rewarded with success. Therefore, I can now present these proofs, without fear of successful contradiction, or ever being beaten, that disease does not spread by contagion.

Mouth war proves nothing. We must go to Nature and find out how she does things in her own way, and without interfering with her. Here are a few of the tests.

I took an air tube, attaching to it a tube that could be entered into the bronchial tubes, filled the tank with air, and mixed it with the various poisons that are usually found in the air, such as dried sputa of consumption, and other decomposed animal and vegetable matter. After forcing these various poisons into the lungs, and keeping the animals under observation for weeks and months, there were no harmful results, except, perhaps, a little irritation and coughing for a day or two.

I also tried by force to introduce the poisons through the lungs into the blood, under an anesthetic, making examinations of the blood afterwards at intervals. But the poisons and germs could not be forced into the blood.

I removed the lungs from a number of animals, tied them up at both ends, after blowing them up thoroughly with air, mixed with the before-named poisons, but the germs would not affect them.

Another fact, which in itself would go a long way to disprove our old beliefs, is that these air cells of the lungs are one of the strongest membranes in the human body, in proportion to their size and thickness. If this was not true, it would

often happen by the terrific force and power to which the lungs are sometimes subjected, by various lung exercises, that it would rupture these air cells, if nature had not endowed them with this unusual toughness and tenacity.

The experimental work during a number of years, combined with the many years of professional experience and observation, had so thoroughly convinced me that it was impossible to make a mistake, or to do any harm in making these tests, that I was ready to experiment upon man, as I wanted to make a record, and make it so strong and so certain that I could in the future meet any and all opposition, or arguments, or tests, no matter in what form or manner I might have to meet them.

I wanted to be so absolutely certain that I was not going to spring a question of so much importance upon the public which could not stand the test and brunt of any investigation that it might be subjected to. I made the experiments upon seventeen people between the ages of fifteen and thirty years, but in no instance could a case of consumption, scarlet fever, small-pox or diphtheria be produced.

These experiments were made in the following manner: I sprayed the poisons of diphtheria, small-pox, scarlet fever, or consumption into the throat, nose, or had them breathe them into the lungs, repeating the experiment in most cases every one or two weeks for months, with the result that no disease could be developed. Of course, I could not let the patients know what I was doing. I was supposed to be treating them for catarrh of the nose or throat.

I want to here call attention to the fact that I did not make cultures of these poisons and germs, which is now considered so scientific, but in reality is unscientific and misleading. I used the genuine stuff, directly from the patients, sometimes carrying quantities of small-pox and scarlet fever scales in my pocket for months.

Note the difference between my experiments and the authorities of today. They take the hypodermic syringe and inject the poison into the blood, while I did not. If disease can not be produced without the use of the hypodermic syringe, the public is certainly safe, as no one has ever seen hypodermic syringes flying around in the air, injecting small-pox germs and diphtheria, and consumption germs into the human body.

This alone refutes as absolutely worthless, and crumbles to pieces what may be termed this wonderful, scientific medical structure that has been built up in the last quarter of a century. Its whole foundation is based upon fallacy and wrong premises. Yet, several hundreds of millions of people, and most of the general practitioners have, with open eyes, swallowed blindly, and believed this unscientific teaching and practice that has killed and ruined millions.

The application of these new principles upon over seven thousand patients in my practice without a single failure, is the crucial test, and they never can fail, as nature is the only reliable authority. All others must vanish. The discoveries, the demonstrations, and the applications of these natural laws are all that will remain.

CHAPTER IV.

IS THE DARWINIAN THEORY WRONG?

I will describe a few facts in nature's process, and explain their relation to other things in future articles.

We eat bread, meat and vegetables; these are digested and taken into the blood to nourish the body.

The blood passes through the whole body about three times a minute. The blood passes to nails and forms nails, to hair and forms hair, to bone and forms bone, to nerves and forms nerves, to muscles and forms muscles. In other words, the *same thing* (blood) coming in contact with different things, produces far different results. This same blood from the food eaten, passes through the organ of generation, and produces what? Real life. The life germ (spermatozoa) is formed. This living germ, when placed in mother soil, nourished by the blood, grows into a human being.

That things or substances in nature, when placed under different conditions, will produce different and often marvelous results, is a universal and recognized law. I will explain one of these wonders in natural phenomena that is a stunner.

Take the human seed germs (spermatozoa), put them upon a plate, first spreading some alkaline nourishment upon the plate; for instance, a little soap, place the plate in a room of proper temperature, and in sixteen to twenty-four hours, swarms of *ants* will be running about. In other words, these living human germs placed under this different condition other than the mother soil, develop into ants. These little fellows can be watched, and be seen to gradually develop, and start off on the run.

This would evidently appear that living germs, when placed by accident, or otherwise, under very different conditions, produce extremely different forms of life.

But what relationship do we owe to the ant? Perhaps this is why the claim is made that the ant has more characteristics of the human being than any other animal.

This great law is universally admitted in other branches of science. But the failure to recognize it and place the human being in the same category in every particular, is the cause of the great failure of man to recognize that we are a product of nature, as all other forms of animal life. and nothing else.

207 Grand Avenue.

[Written for the MEDICAL BRIEF.]

What is Vitality.

BY ROBERT WALTER, M. D.,
Walters' Park, Pa.

The MEDICAL BRIEF is the most interesting of all the journals which come to our table, and it has an interesting article in the October number, entitled, "Vitality." The Editor says, "let us all give our views." I accept the invitation and will give mine, and this is it:

Vitality is the power of life, just as gravity is the great, natural, mechanical power. Vitality is a force inherent in life, just as gravity is a force inherent in matter. By inherent, I understand that life can not exist without vitality, and matter can not exist without gravity.

Vitality, being inherent, can neither be manufactured nor destroyed, any more than gravity can be manufactured or destroyed. It is not, therefore, the product of transmutation any more than gravity is. Life is an inheritance, and each new living thing is a new creation, just as certainly as any other world is. Man is a microcosm, the source of whose being is the source of all being. "He giveth to all life and breath and all things," is as scientific as that He said, "Let there be light, and there was light;" let a firmament appear, and it appeared in answer to the operations of gravity, as light appeared in answer to the operations of chemical affinity.

Vitality is the real cause of all vital phenomena, producing health or disease, just as we supply the conditions of health or disease. It is the source of pain, as well as pleasure; of weakness, as well as strength, just as gravity brings down the rain and carries up the mists; floats the balloon, or dashes it to the earth; sinks the ship or sails it. All that man can do is to supply the conditions, while Nature does the work.

Under this view, disease is a product of life—the result of its operations, just as truly as is health, and is produced by the operations of the same laws that produced health. As health, therefore, illustrates the law of self-preservation, so does disease. As vitality grows bone, muscle and nerve, so it heals them, and as it heals these, so it repairs all lesions, and is ever on the alert to restore the patient to health. If the doctor will supply the conditions for health, accumulate the power of life, and give Nature a chance, she will heal all diseases, and double the average of human life in a single generation.

[Written for the MEDICAL BRIEF.]

Ingrowing Toe-Nail.

BY A. BOUILLON, M. D.,
Mataine, Quebec, Canada.

One of the best treatments for incarnated nail of the toe, with suppuration around the nail, and inflammation of the tissues in the vicinity, is a serous application of chloride of ethyl, as a spray, three times a day, and a charpie (picked lint) under the corner of the nail. You can cure all cases with this treatment.

[Written for the MEDICAL BRIEF.]

Leucorrhea and Its Treatment.

BY LOUIS DRECHSLER, M. D.,

Formerly Physician St. Louis City and Female Hospitals. St. Louis, Mo.

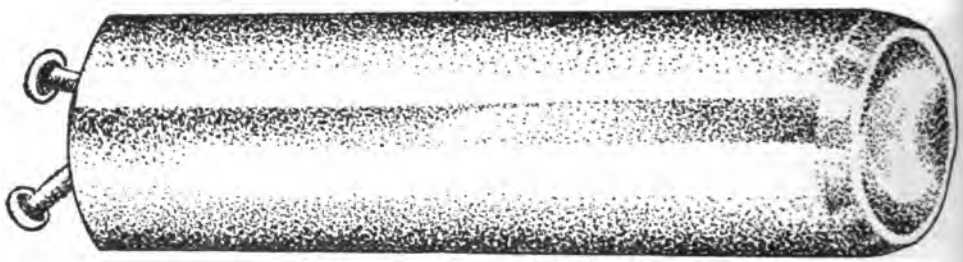
We recognize it as a symptom of an existing endometritis, not necessarily as it can exist alone. Owing to its frequency we are looking for some plan of office treatment which will promise some relief. The medical practitioner is often asked to prescribe some powder or antiseptic to be used in a vaginal douche; these and the use of mild, carbolic solution should be discouraged.

Our female patients are apt to believe that leucorrhea follows a run-down condition, when the reverse is the case, the anemia and allied symptoms following the endometritis. Endometritis can best be relieved, where indicated, by curretting without drain; later by, locally, two to five per cent silver solution, followed by ammonium sulpho ichthiolate, and vagina swabbed with same strength silver solution, and dusted with a good drying powder. Where consent to curretting can not be obtained, or where not strongly indicated, the local treatment of the silver solution. The vaginal treatment can be followed out in these cases of increased vaginal secretion, without endometritis; the douche should not be used for therapeutic purposes, only in extreme cases for cleanliness. While hospital interne, with plenty of material, I had opportunity for making observation with the douche treatment and dry treatment. I found that the dry treatment gave the best results. I believe that the douche is contraindicated, except for hygenic reasons.

In order to get the hot-water douche effect, that is, the vasomotor dilating action and the toning up of the vaginal mucous membrane, I had made for myself an apparatus which will give all these benefits without that tiresome and disagreeable douche method.

I use this in connection with the silver solution. Same can be used in office, sanitarium, or at patient's home.

Method of Use.—While patient is in recumbent position, apparatus is sterilized, lubricated and inserted into the vagina by means of rubber tubing; connection is made with fountain bag of hot water; the hot water passes, by means of coils, through cylinder; runs into waste pan through rubber tubing. The flow can be so regulated that it requires thirty minutes to one hour for one quart of water to pass through coils. The method is easy, comfortable, and no soiling of linen. The use of the silver solution can be confined to the office treatment, and the apparatus at home.



While it is not in the scope of this article to speak of the perimetric inflammations, or parametric exudations, or ovarian pains, the use of the apparatus, as before mentioned, combined with the placing of a hot-water bottle over hypogastric region, as an adjunct to the usual treatment, gives most excellent results.

The apparatus is one and one-quarter inches in diameter, cylinder four and one-half inches long; made for me by Mr. Frank St. Gemme, 817 Market street, St. Louis

2701 Blair Avenue.

[Written for the MEDICAL BRIEF.]

Dyspepsia.

BY M. M. FOY, M. D.,
St. Louis, Mo.

Dyspepsia is the most common of human ailments. Not one in a hundred is entirely free from this universal ill. No medical skill can effect a permanent cure unless a diet can be devised which will meet the needs of the patient in the way of nourishment, and at the same time not overtax the digestive powers.

Sometimes the appetite is perverted, and will require to be trained into normal channels. Fasting, judiciously undertaken, is one of the best means for doing this. Such a fast in a properly selected case is a good preliminary to a radical change of diet.

Digestion is a chemical process, and the digestive fluids are prepared from the blood, so that we can not have digestive secretions of high power unless the diet is well-balanced. For instance, a diet which does not contain sufficient proteids will not furnish an active gastric juice, and flatulence is the natural result.

A one-sided diet is one which consists, say, of too much starchy matter, as if potatoes, peas and beans are the three vegetables served at one meal, or too little proteid, or perhaps is lacking in the different salts needed by the tissues, and contained in green vegetables, or contains too much fruit.

Proteids rank first in importance. Milk, new or skimmed, buttermilk, cheese, eggs, lean beef, chicken, fish, oatmeal, wheat, many nuts, especially peanuts and peanut butter, are rich in proteids.

Dr. Haig, of uric acid fame, has calculated that a man weighing one hundred and forty pounds will require one thousand two hundred and sixty grains of proteid per day; if actively employed an extra allowance of two hundred grains should be made. Tables have been compiled showing the percentage of proteid in various foods.

Those who find difficulty in taking the necessary amount of food should persevere, adding a little more at a time until the digestive organs are once more able to manage food in proper quantities and proportion.

Strength is derived from food and conserved by good habits. No man can be well until he learns how to eat, and trains his digestive organs to take and dispose of food in quantities to make good wear and tear, and furnish energy to run the machine.

The idea that the less one eats the better is a doctrine of despair, arrived at by sufferers who have been the victims of ill-directed experiments. Their minds must be disabused of this notion before any progress can be made.

A man should never go to bed hungry, nor should he ever eat from habit alone, in the face of positive disinclination. When appetite is lacking at the proper times, go out in the open air and look for one.

An increase of energy is the sign of improved nutrition. The patient is not in a satisfactory state until this sign is noticed, even though the scales show an increase of weight.

Fruit, as a rule, should be eaten apart from meals. Fruit is of great value in certain diatheses, as the uric acid and scorbutic; it agrees well with persons of the bilious and lymphatic temperaments. In the dyspeptic, fruit often causes flatulence, and its place is well taken by green vegetables and tubers, when properly cooked. The alkaline salts contained in these vegetables are of much value in purifying the blood.

The food should be chewed fine and thoroughly moistened with saliva.

Flesh foods are not so good for dyspeptics. Bread is made more digestible by toasting.

The contents of which, to my notion, the editorials are the best part of the BRIEF, delight me. I know of no popular magazine so pleasing.—C. K. WHEELER, M. D., Boston, Mass.

[Written for the MEDICAL BRIEF.]

Memorandum of Case of Elephantiasis Vulvæ.

MONTEGO BAY, JAMAICA, W. I.,
February 6, 1906.

Editor Brief:

DEAR SIR—The peculiarity of disease in this tropical Jamaica is the accentuated character. Nature seems to do her worst, and it is most marked in those morbid growths that call for surgical interference. Believing that the readers of the BRIEF will be pleased to have their attention called to a case of special interest, which can be illustrated from photographs, I have permit me to send the accompanying notes and photographs. The operation was regarded somewhat as that one of long ago resulting in the severance of the Siamese

twins; it was feared by those who had refused to attack the tumor, that excessive vascularity might render the extirpation dangerous, but the fears were groundless, as the report shows.

Yours truly,
B. B. USSHER, M. D.

Jemima Beckford, mulatto, aged twenty-seven years; admitted to hospital August 20, 1903; states that about twelve years ago she first noticed the right labium majus becoming swollen and puffy. The swelling increased rapidly, but she suffered no pain, only discomfort in walking, until after two years the tumor had become so large that she was unable to move about, and was practically bed-ridden.

suaded Dr. George W. Thompson, whose skill as a surgeon is thoroughly established in this section (to the credit of Bellevue Hospital, his *alma mater*), to per-

She said that for the last ten years the tumor had remained about its present size, but on two occasions there was formation of an abscess on the surface, near the vulva. These were poulticed and soon healed after the pus was discharged.

Examination—She was well nourished, but very anemic; stood with difficulty, and unable to walk unless supported, and that with great effort.

Hanging from the right labium majus was a large tumor, which was one-half to one inch from the ground when she was in such position. When in bed both knees had to be flexed to give room for tumor.

There was a large scar on upper and inner surface of tumor, and several smaller scars on lower portion. Right labium minus was absent, being merged into pedicle of tumor.

Measurements—Circumference around middle of tumor, fifty inches; from symphysis pubis to lowest point of tumor, twenty-six inches; from edge of labium minus around bottom of tumor to crease in thigh, fifty-eight inches; circumference of pedicle, nineteen and one-half inches. After operation the length of incision when sewn up was eleven inches.

Four Weeks After Operation.

Two examinations of blood (taken at night) were made, with negative results as to filaria.

Operation.—On September 9, assisted by Drs. Costa, Mills, and McCalty.

Hemorrhage very slight and easily controlled by grasping pedicle with hands while several large vessels were tied; chiefly dilated veins.

When removed, tumor weighed seventy-four and one-half pounds. Convalescence rather protracted, as portion of one flap sloughed. After wound healed at first she could not walk, but staggered about the ward with the aid of a stick. Power of locomotion soon returned, however. Discharged November 22, 1903.

About a year and a half later she was seen, when the vulva had almost a normal appearance; she was then about two months pregnant. In December, 1905, she died, after giving birth to twins, from puerperal fever. She was confined in the bush, away from medical aid.

[Written for the MEDICAL BRIEF.]

Medical Facts, Fancies, Fallacies, Follies, Foibles and Frauds.

BY S. E. GIBBS, M. D.,
New York.

The history of medicine begins in obscurity. Far back in the dim past the fact of the existence of disease and death confronted the human race and, probably, the most serious problem which stared primitive man in the face from his earliest infancy, was that of the cure of wounds and disease, and the prevention of death.

If we examine the earliest records we find man surrounded by adverse influences, threatening his very existence. Surrounded as he was by wild beasts, venomous serpents, poisonous plants, and inclement atmospheric vicissitudes, all combining to force upon his inexperienced, rude mind, the sad fact that he was the most helpless of beings, and that unless he, and he alone, should set himself to discover some means of obviating the deleterious influences of all these enemies he must suffer, he must die, and that even after a struggle, more or less brief, death was inevitable; his main thought then must be to protect himself as far as possible from external influences, and as long as possible, and prolong existence to the utmost limit.

Exposed, as he was daily, to the attacks of savage beasts, he must learn to defend himself, and also cure the wounds which he received. Not knowing what plants were beneficial and wholesome for food, and which were injurious; which would cause pain and sickness and which would cure. Ignorant and superstitious, but still advancing in knowledge, *slowly*, it is true, but advancing, some being more apt pupils than others, even as in our day; some arrogating to themselves more knowledge than they possessed, even as in our generation. The more ignorant of the race, simple, trusting, unsuspicious, steeped in superstition, naturally turned for advice in their extremity to those who they thought possessed more knowledge than themselves. Some, more shrewd, more averse to earning their bread by the sweat of their brow, took advantage of the child-like faith of their fellows, played upon their credulity, and in some cases used it to gratify their own avarice. Others, believing in their own ability and superior knowledge, acted conscientiously, living up to the light they possessed, though that light was as the pine torch compared with the electric glare of today.

In the ignorance and superstition of the race at that time we trace the birth of the priesthood. The man who cured, or pretended to cure, the disease of the body, why should he not also pretend to cure the sin-sick soul. Though of the interval which elapsed between the advent of the primitive medicine man and the full-fledged priest we have no record, but we know that for a long period of time subsequently, the priest and the physician were united in one person. Very ignorant and superstitious, but just a little, a *very* little, more intelligent than his fellows, evidenced by his belief in the vilest medicinal compounds which can be imagined, and the *vis medicatrix naturæ* being equally as effective or more so than at the present time, owing to a plentiful supply of fresh air and pure water, and an outdoor life, his remedial measures were frequently apparently crowned with success, with the natural result that such success was rewarded with more faith and reverence towards the priest on the part of the ignorant masses.

The priest-physician is now firmly established. He has the confidence of the people, but, being but little above the masses in intelligence, still steeped in superstition, but with a reputation to sustain, he makes use of all those physical and psychological influences which experience teaches him are the most effective in creating fear and awe in his constituents, hence he begins to lay claim even to supernatural powers. He brings to bear upon their credulity all those mysterious influences which his superior knowledge enables him to grasp, and he terrifies them with slight-of-hand exhibitions (so-called "miracles"), dreams and omens. His hold upon the credulity of the people is so great that he can per-

suade even a king (Hezekiah) that he is in danger of dying of a "boil," and claims to have averted that horrible death by the application of a fig poultice. For which exhibition of skill he receives the homage even of the sovereign upon the throne.

We smile at the king's credulity, but why? Have we not today men, high in intellectual circles, men renowned for their hard business sense, at the head of vast corporations, yet wearing upon their little fingers rings of German silver for the purpose of preventing rheumatism? Alas, that at the beginning of the twentieth century the fancies and superstitions of the childhood of the race still prevail, even among the most intelligent of our citizens. And in addition to the *fancies* are there no *fallacies*, equally indulged in by thousands who in every department of thought are far in advance of their fellows? *Fallacies* shared by all alike, regardless of culture, refinement, education, or even common sense; hence we have today to contend against ridiculous notions regarding the spread of disease. Determination of sex, birthmarks, premonition of death, signs of death, pseudo-hypnotism, so-called Christian Science, the direful results of vaccination, etc.

But it is, perhaps, in the case of puerperal women that we find the greatest difficulty in acting like rational, thinking, intelligent beings, and are daily browbeaten and harassed by old women who believe in the direful effects likely to follow to a patient from lying on her back, raising her arm, drinking water, coffee, or milk; raising her head from the pillow before the ninth day; having the colostrum sucked away by any one but the husband; of the great danger to the patient of lying under anything less than a sheet, two pairs of blankets, and one or two heavy quilts, for at least nine days, regardless of comfort or temperature.

And are there no fallacies fostered and cherished by physicians themselves? Sometimes regarding results of treatment. How often do we read in a list of "testimonials" as to the virtue of some remedy, of the wonderful cures which have been effected; but if we examine closely we find that the much-vaunted remedy has been combined with other drugs. Is it not, then, fallacious reasoning to credit the cure to only one ingredient of the compound? How did the doctor who wrote the glowing testimonial know to a certainty *which* ingredient cured, or whether the patient recovered in spite of the treatment, or was it simply a case of *vis medicatrix naturæ* exemplified?

Only a very short time ago, operation was the only indication in appendicitis. Sixteen years ago I read a paper before a medical association advocating early operation in these cases, but I have lived to see quite a number of well-defined cases of appendicitis recover without operation, and at last the pendulum has begun to swing in the opposite direction, as witness the recent case of King Edward, and some of our eminent surgeons are now advocating a more conservative line of treatment.

While on the subject of "fallacies," I can not avoid mentioning one particular fallacy, which might also come under the head of "follies," and which is exceedingly detrimental to the financial welfare of each and every one of us. I refer to the practice of boasting in the presence of the laity of the number of patients visited, for the purpose of giving the impression that you are a very busy man. Take an illustration: You visit a patient, say at eight or nine P. M.; as you leave him you casually remark that you have six or eight visits to make that night. Now, what is the result? The patient and his friends are very likely to reason something in this fashion: The doctor charges two dollars a visit, he expects to make twelve or fourteen dollars more this evening, besides having been busy all day. Why! he is simply coining money. Why should my family go without clothes to pay him? He does not need our money, and long afterwards, when your landlord demands his rent, or the washerwoman her bill, you wonder why your patient has never paid you. Foolish doctor; did you not virtually tell your patient that you did not need his money?

Again, you must be a victim of fallacious reasoning if you think to increase your popularity by criticizing the diagnosis or treatment of another doctor, for by so doing you cause the patient and his friends to lose faith in *all* doctors, with the result that next time he is sick he will almost certainly patronize the druggist, or the patent medicine man.

Medicine is not an exact science, and the treatment of today may be contraindicated tomorrow, so that it behooves us to be careful to uphold the reputation of the profession, and neither by look, word nor deed, to give the impression that our predecessor has erred, either in diagnosis or treatment. Because a patient had a boil yesterday is no reason why he may not have toothache today, and still the doctor's diagnosis and treatment be correct.

The follies are shared about equally by the patient and his physician, and let him only that is without sin cast the first stone at the woman who exhibits her folly in sinning against her own body by tight lacing, wearing thin shoes, excessive or deficient clothing, intemperate eating of unsuitable food, the production of abortion, and in ways too numerous to mention. But does not her *physician* also exhibit *his* folly, sometimes by exploiting himself, by pomp and display, by cutting his brother practitioner's throat (figuratively speaking), by extravagant boasting, by frequenting questionable places of resort, by constantly posing as a "busy practitioner," by encouraging young men to engage in practice of medicine; foolish man, though a doctor. Has he not also foibles? Is he not altogether too sensitive? Does he not often go about looking for the "chip on the shoulder?" Is he not profoundly jealous of his confreres? All these are only foibles, but are they not unworthy of the dignity of the members of a noble profession? Of course, the reader is not guilty of any of these frailties, but I speak of the profession at large.

Frauds! Oh, surely there can be no frauds connected with such a noble profession. But—there are, of various degrees, and the magnetic healer, the quack, the preacher-doctor, the prescribing druggist who allows himself to be addressed as "doctor." Down, down the steep declivity to the man who artfully bribes with a box of cheap cigars the newspaper reporter to be present at his brilliant operation, are nothing more nor less than frauds.

There is another fraud to which I have called attention on a previous occasion, and which I would like you always to keep in mind. I refer to that gigantic fraud, the modern dispensary; the reader can supply his own profanity, for I am unable to do the subject justice. That voracious ostrich which swallows all and vomits none; that sends out year by year its appealing letters for contributions to the noble charity; that treats all comers, from the poor wretch clad in rags, but who has in his hand fifteen cents with which to pay for four ounces from a bottle mysteriously marked "No. 3," and which in his unsophisticated innocence he believes to have been carefully compounded from a prescription adapted to his special needs, but which in reality contains only ten grains of quinine to two quarts of water. To the silk-stockinged, jeweled-gartered, satin-dressed, seal-coated owner of the equipage with prancing steeds, which awaits her at the dispensary door.

This noble institution, which receives every year a large portion of our excise revenue, all of the Saturday and Sunday hospital fund; which tickles the vanity of rich women by selling to them marble slabs on its walls for one thousand dollars each.

Which pays wages to every employé, from janitor to superintendent, but nothing to the faithful army of physicians and surgeons, without whose services the institution could not exist one day.

Foolish doctor, whose plumber charges sixty cents an hour to repair his leaking water pipes, and sends his bill promptly at the end of the week.

When will the day arrive when the doctor, like other professional men, will receive his wages? Not until he demands them. When he does demand them he will get them. Why not demand them

now? All the world has been on a strike for higher wages, and is getting them. The cost of living has been enormously increased, and I believe the time is ripe for the physicians of this country to demand that they be paid for their services, or refuse to work any longer for these wealthy corporations. Last year more than eight hundred thousand persons were treated in the so-called free dispensaries of this city. Who treated them? How could they have been treated without the doctors?

I fear I have exhausted your patience, but I would like to add a few words more.

Medicine is a liberal science; therefore, in a spirit of liberality, our duty is plain. We should strive to enlighten our patients on the subjects on which they exhibit such gross ignorance. We should also stand by and uphold the dignity of the profession as a whole. Discourage frauds, take a bold stand against advertising, even when practiced by those high in the professional ranks. All good medical legislation should be upheld and encouraged. We should do our utmost toward upbuilding and sustaining our medical associations, for in union there is strength, and some day, possibly, in the far distant future, in this world or another, we shall receive our reward.

22 East One Hundred and Twenty-Sixth Sts.

[Written for the MEDICAL BRIEF.]

Homeopathy—An Attempt At Definition.

BY CHAS. S. MACK, M. D.,
La Porte, Ind.

Of what cure does *similia similibus curantur* purport to be the law? An answer agreed upon, much time and labor would be saved when homeopathy was discussed; the issue would be clear. Will the following definition serve?

The cure of which *similia similibus curantur* purports to be the law, is an immediate change from what is abnormal to what is normal (or approximately normal) in vital processes—"immediate," not in time, but in that the medicine has no effect mediate to this.

Examination Questions Before The State Medical Board of the Arkansas Medical Society; Little Rock, Ark., January 9th, 1906.

ANATOMY

1. Give the composition of the blood.
2. At what time in the development of the fetus do the eyelids begin to form?
3. Name the parts of the sternum.
4. Distinguish the first from the eighth rib.
5. Name the bones of the pelvis.
6. Name the muscles of the cranial region.
7. Describe the triceps muscle.
8. Name the branches of the femoral artery.
9. Describe the stomach, giving nerve and blood supply, etc.
10. Bound the cavity of the pelvis.

SURGERY.

1. Differentiate between a fracture and a dislocation.
2. Give two surgical treatments of hydrocele of the testicles and state your preference.
3. Give symptoms and treatment of an acute appendicitis; chronic appendicitis.
4. Give symptoms and treatment of fracture of the middle third of the femur.
5. Describe a Colles' fracture and give treatment.

PHYSIOLOGY.

1. Describe the lymphatic system. Give its functions. How do the lymphatic vessels differ from the blood vessels?
2. What is meant by reflex action? Give several examples.
3. Give composition of bile? Name the organic and mineral salts.
4. Give the distribution and function and name the primary branches of the fifth cranial nerve.
5. Where does filtration of urine take place? What will increase the secretion of urine?

OBSTETRICS.

1. (*a*) What is menstruation? (*b*) What is vicarious menstruation? (*c*) What is menorrhea? (*d*) What is menorrhagia? (*e*) Name some of the causes of irregular menstruation? (*f*) What may the cessation of the menses denote?
2. (*a*) What is meant by presentation? (*b*) Name the varieties. (*c*) Give complete diagnosis of any one presentation.
3. (*a*) Give diagnosis of the puerperal state. (b) Give briefly treatment of *post-partum* and of *ante-partum* hemorrhages.
4. (*a*) How and when would you use chloroform during labor, if at all? (*b*) What

laceration should we look for after delivery in a primipara, and what ones should be repaired?

5. (*a*) What is asphyxia neonatorum? (*b*) What is the prognosis? (*c*) Give the treatment.

PRACTICE.

1. What is the physical sign of lobar pneumonia?

2. Give symptoms and treatment in detail of pernicious malaria (so-called congestive chill).

3. Give treatment medically for appendicitis.

4. Give medical treatment for erysipelas.

5. Give medical treatment for hemorrhage in typhoid fever.

6. Give diagnosis and treatment for la grippe.

7. Give diagnosis and treatment for tonsillitis.

8. Give diagnosis and treatment for scarlet fever.

9. Give diagnosis and treatment for fibrinous croup.

10. Give diagnosis and treatment in detail of diphtheria by antitoxin.

N. B.—Answer Questions 1 and 2 and any other three you like.

CHEMISTRY.

1. What is carbolic acid derived from?

2. In what different ways does carbolic acid act as a poison?

3. What is the immediate local antidote for carbolic acid poisoning?

4. What is meant by the term incompatibility, in chemistry?

5. What is meant by the term element, in chemistry?

6. What is the difference between an element and a compound?

7. Is strychnine a vegetable or a mineral?

8. From what is strychnine obtained?

9. What is the antidote for strychnine poisoning?

10. Is arsenic an animal, vegetable or mineral substance?

11. How does arsenic act as a poison?

12. What is the antidote for acute arsenical poisoning?

13. What is the antidote for bichloride mercury poisoning?

14. Name some of the different preparations of mercury used in medicine.

15. What is iodide potassium?

16. Is iodine an element or a compound?

MATERIA MEDICA AND THERAPEUTICS.

1. Give the average adult dose of the following: Arsenious acid, bichloride of mercury, iodide of potassium, gallic acid, nux vomica, hyoscyamus and cannabis indica.

2. Give rule for figuring proportionate dose for a child as compared to that of an adult. Give exceptions to rule, if any.

3. Name two important drugs used in treatment of syphilis and stage in which each is indicated.

4. Give indications for the use of salol, its dose, and state upon what its therapeutic value chiefly depends.

5. What is the strength of arsenic in Fowler's solution, or opium in laudanum, and ipecac and opium in Dover's powders?

6. Name one diuretic, one diaphoretic, one cholagogue, and give dose of each.

7. What do you consider the most safe and efficient antipyretic?

8. Write a complete prescription containing three active diuretics, and give indications for its use.

9. Give therapeutic use of iron when taken into the stomach, how is it absorbed and then how is it eliminated?

10. Give dose of hyoscine for hypodermatic administration and for what purpose is it used?

(Written for the MEDICAL BRIEF.)

Poison Ivy.

BY J. J. THOMAS, M. D.,

Rosenberg, Tex.

I see an article in the BRIEF from Silas Hubbard, M. D., in which he takes up the treatment of the poison ivy, or poison oak, as it is commonly called. He seems to doubt the existence of a specific for it, but seems to think it has to have its course before it can be cured. Now, I think there is a healing balm for every wound, ache or pain, if we but only knew what to give for it, and may be the Doctor does, too, but does not know what it is that will cure this, as I do not know for many other things. But I want to ask the Doctor and my brother doctors, when they have to treat a case of rhus poisoning, to try the following simple but sure remedy, that cures every case in a short time:

℞ Fld. Ext. Serpentaria.....2 ounces.

Sig.: Sponge parts affected well with contents and take twenty drops every four hours in water.

And learn, that as I aforesaid, that for every pain there is a healing balm, if we only get out of the old rut of believing that it must have its cures, and seek and find it.

Long live the BRIEF.

Book Notices.

DISEASES OF METABOLISM AND OF THE BLOOD—ANIMAL PARASITES—TOXICOLOGY. Edited by Richard C. Cabot, M. D., Instructor in Clinical Medicine in the Medical School of Harvard University. An authorized translation from "*Die Deutsche Klinik*," under the General Editorial Supervision of Julius L. Salinger, M. D. With one colored plate and fifty-eight illustrations in the text. New York and London: D. Appleton & Company. Price, $5.00.

This is the second volume in a series entitled "Modern Clinical Medicine," the first of which was "Infectious Diseases," edited by J. C. Wilson, M. D. The volume under discussion is fully equal to the one preceding it, and is characterized by the same exhaustiveness of treatment. The translation and general editing has been done by Dr. Julius L. Salinger, and the many annotations made throughout the work by Dr. Richard C. Cabot are of especial value. When we consider that the original work was written by such eminent clinicians as Gerhardt, Ewald, Ehrlich, Grawitz, Leube, Litten, von Noorden, Enauyn, and Jaksch, little need be said as to the standard of the teaching herein presented. It bears the stamp of direct, simple, clinical teaching, such as characterized the instruction of those above mentioned. The work may be regarded as setting forth the most advanced teaching in medicine. It is an epitome of the latest researches in a field hitherto regarded as obscure, and almost unexplored. The work is unexcelled in any language, and should have a place in any library of a physician who wishes to be abreast of the times. The busy physician, both in medical centers and in remote hamlets, may here find his inspiration and guide. One of the distinguishing features of the work, which renders it especially valuable to the practitioner, is the very full discussion of treatment, embracing full diet lists, as well as all the modern aids, such as organotherapy, medical gymnastics, massage, hydrotherapy and electro-therapeutics, without subornating actual drug treatment. We predict for this work the same favorable treatment accorded the work on "Infectious Diseases."

PROGRESSIVE MEDICINE. A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by Hobart Amory Hare, M. D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. Philadelphia and New York: Lea Brothers & Co., Publishers. Per annum, in four cloth-bound volumes, $9.00; in paper binding, $6.00; carriage paid to any address.

This work, from its inception, has embodied an earnest effort to present a contemporary record of the best that is being thought and done in medicine, both from a scientific and practical standpoint. That this effort has been successful is shown most satisfactorily by the fact that although each year has shown a substantial increase in its list of readers, the original subscribers to its first volume remain its staunch friends, with practically no falling off. This result was to be expected; the plan and execution of the work are very practical. No medical man has the time to read all the medical literature of the world in all languages, and this is a part of the service rendered by "Progressive Medicine." Its authors not only read, but also sift out the good and helpful matter and discard the useless or doubtful. This, however, is only the beginning. These authors, all of whom are selected for peculiar ability and experience in their special fields, interweave this matter with their own knowledge and achievements, and each tells a connected, logical, interesting, original narrative, giving reports of their cases and investigations and abundant bibliographical references for those readers who may wish to carry their study deeper.

ELKHART CARRIAGE AND HARNESS MANUFACTURING CO.'S CATALOGUE, for 1906. Elkhart, Ind.: Published by the firm and sent to physicians on request.

This firm has been in business for thirty-three years, and sell direct to purchaser, having no agents. Every vehicle is shown by cut, and prices given, so you can know just what to expect for your outlay. If in need of a carriage, it would be well for you to communicate with them, and say you saw their announcement in the BRIEF.

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We take this opportunity of expressing our appreciation of the receipt of Volume IV., Fifteenth Series, of this valuable work. This work has been delayed a trifle, owing to the strike of the printers, which was universal throughout the country, but this has been properly adjusted and this volume comes to us so thorough in good things for the profession that we can forget the delay, and relish it thoroughly. The colored plates in this volume are something to congratulate the publishers on, and, as usual, with this work, all its contents are the best productions of men of merit.

CHRISTIANITY AND SEX PROBLEMS. By Hugh Northcote, M. A. Crown Octavo, two hundred and fifty-seven pages. Bound in extra cloth. Philadelphia: F. A. Davis Company. Price, $2.00.

We believe it is a fact, as the author says, regarding the sex question, that it carries the student into many branches of knowledge, such as anthropology, biology, medicine, law, theology, etc. It directs his inquiring gaze toward the lowest depths, as well as toward the most glorious heights of human development. Such being the case, we should apply ourselves to the subject, and read along these lines studiously, so we can realize how necessary it is to appreciate the science of Christian sexual ethics. It is a work well worth reading, because it contains the essence of Christian morality.

THE PHYSICAL EXAMINATION OF INFANTS AND YOUNG CHILDREN. By Theron Wendell Kilmer, M. D., Adjunct Attending Pediatrist to the Sydenham Hospital; Instructor in Pediatrics in the New York Polyclinic Medical School and Hospital, New York; Attending Physician to the Summer Home of St. Giles, Garden City, New York. Illustrated with fifty-nine half-tone engravings. Twelve mo., eighty-six pages. Cherry Street, Philadelphia, Pa.: F. A. Davis Company, Publishers. Price, 75 cents.

The physical examination of infants often puzzles the average physician, who is used to the benefits that an adult can convey to him to aid in a diagnosis. The diagnosis of children's diseases requires much judgment, and a correct knowledge must be gained before proper treatment can be made. How to examine a baby for its ailments requires more thought and judgment than for an adult, who can greatly assist the physician in locating the trouble. It would be well for all physicians to post themselves on this subject.

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It would be a matter of supererogation to say that a new edition of this work is before you for your needs. This work is practically a new book, while you considered the last one good enough. This one has many changes, owing to the new pharmacopeia, as over one hundred new articles have been included in what we thought a perfect and complete work. All who secure this new work will be pleased to have the changes, that seemed to be necessary to bring it up to present methods.

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Editorial.

What Is Government For?

In this age of complexity and indirection, do you ever stop to think what government is for? Is it not to give men liberty to work out their destinies? What else can it stand for? Self-reliance, opportunity and liberty are the three essentials of progress. We can have none of these without good government.

We do not want a government to run our trains, manufacture our goods, parcel out our lands, or pension us, or in any way interfere with us. Good government is neither a father, a tyrant, nor a guardian. All we ask of government is to preserve peace and order, so that every man may have a fair chance to develop his resources.

The growth of organizations in this country, the multiplication of government activity and offices, has narrowed man's opportunity, and almost deprived him of his liberty. Men must grow or become mentally and morally deformed. Yet all the tendencies of the times go to make him a mere peg in a machine, a puppet constrained by intangible, arbitrary forces.

The individuality of a man has little opportunity to assert itself practically to-day. The trusts on one hand, the unions on another, between them the political machines, have constructed molds into which men must fit themselves somehow, regardless of what suffering is caused, what damage is done to the man.

Time was when the individual was regarded as the greatest factor and asset of the nation. That was the time of our greatest progress and prosperity. The individual was free to do what he liked. There was no trust to gobble up his little business, no union to precipitate costly and ruinous strikes, no political machine with its elaborate system of graft.

Personal liberty made this country great by stimulating the individual to excel. Machinism favors a dead level of mediocrity. The government to-day does not say to men: "Go ahead and do the

best you can. You shall have a square deal." On the contrary, it says: "You are a suspicious person. You must answer a lot of questions, and buy a roll of red tape, and I will send a detective around occasionally to make sure you are not doing anything downright dishonest."

The great trusts which have become wealthy through monopolizing one industry, have secured control of others necessary to the conduct of their business, so that competition is effectively shut out, and they are even able to dictate prices of the raw materials used in their factories.

The unions forbid a man to excel by denying him the right of private contract. Not only that, but even the right to work at all is taken from him if he gets on the bad books of the union.

The conditions of life have become so uncertain, men do not have the hope, enthusiasm and ambition which once inspired them in the struggle. Ideals are on the wane. Work is more perfunctory. Amusement and diversion are at a premium.

A nation is rich and well-governed when the individual is at his best and most prosperous estate. The individual is at his best in a position of individual responsibility, when he owns his own home, can feel reasonably assured of the future, has means to educate his children, and knows that they will enjoy an equal measure of liberty and opportunity.

It is poor, no matter what the bank statement may be, when a man has no chance to make the most of his resources, no prospect of independence and self-development, when the home is on the decline and the birth-rate is going down with it.

Political parties instead of fighting the battle of individual rights either devote their energies to cheapening light, fuel, wares, or other commodity, on the same principle, we presume, that the Roman populace were furnished bread and games to satisfy pressing need and distract the mind from contemplating their wrongs, or else raise issues which are of little importance beside the fundamental question of individual liberty.

What the country most wants to-day is a party which will return to first principles, which will fight the growing, crushing power of organizations, which will fight the increasing tendency to manufacture laws which engender graft, and strengthen the machine, and give the individual that chance, that equality before the law, without which any nation must eventually perish.

A peculiar circumstance of the current proprietary medicine agitation is that the same product endorsed by one medical journal is likely to be harshly criticized and pronounced unethical by the next. Of course we all concur in the condemnation of secret nostrums that depend on a gullible public for existence, but when it comes to preparations that have for years been in general use by the profession, a careful examination of the publications in question would seem to indicate that the consideration of advertising patronage exerts an undue influence over the editorial expressions. This wide diversity of opinion among medical journal editors is especially to be deplored because it suggests to the uninitiated a lack of sincerity of purpose in this present-day crusade.

[Written for the MEDICAL BRIEF.]

Food and Sleep.

BY E. MATHER, M. D.,

Detroit, Mich.

A very short time ago it was held that the eating of food immediately before retiring was almost a crime.

Now, the whole theory is quite exploded. Some physicians have changed, according to the times. I have at all times taken food before retiring, and have never had any bad results, but the reverse.

Indeed, that a good deal of the prevalent insomnia is the result of the unconscious craving in the stomach for food in persons who have been unduly frightened by the opinion that they must eat before going to bed, or who have, like many nervous women, been keeping themselves in a state of semi-starvation. Nothing is more agreeable, on retiring for the night, than to take a small bowl of hot milk, malted milk, hot broth, cup of hot cocoa with milk, oatmeal gruel, or some good, nourishing soup, for it is a positive aid to nervous people and induces peaceful slumber.

THE MEDICAL BRIEF

J. J. LAWRENCE, A. M., M. D.,
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[Written for the MEDICAL BRIEF.]

Chronic Rheumatism of Muscles and Joints.

BY RALPH STOCKMAN, M. D.,
Professor of Materia Medica and Therapeutics in Glasgow University.
Glasgow, Scotland.

Before we can profitably discuss the nature and treatment of chronic rheumatism, it is necessary to consider very briefly certain acute specific infections in the wake of which it very frequently follows. The commonest of these are ordinary acute rheumatism, rheumatic sore throat, muscular (rheumatic) colds, influenza, rheumatoid arthritis and gonorrhea. All these are microbic diseases, and in all of them the infective organisms may spread widely from their original site or point of entrance, and may cause inflammation of the joints, and of the fibrous tissue structures throughout the body.

No tissue is of more general distribution than white fibrous tissue, but the parts in which it is most abundant are the muscle-sheaths, tendons, aponeuroses, fascial, periosteum, joints, ligaments, nerve-sheaths, and valves of the heart. Hence the frequency with which these structures suffer in the various diseases above-mentioned. When the specific organisms get into the blood stream, and small colonies of them find a lodgment in the various fibrous tissues, a local reaction occurs, attended by inflammatory proliferation of the tissue, and this accounts for the racking muscle and periosteal pains so often seen in influenza and acute muscular rheumatism.

In many cases these small inflammatory areas are visible as slight swellings, or may be palpated as soft, doughy masses, very tender on pressure. Microscopically examined they are seen to consist of proliferating fibrous tissue, with some serous exudation. When the acute attack has passed off, the tenderness lessens, but the fibrous tissue remains behind as a larger or smaller induration, through which branches of nerves very often pass. Such fibrous indurations may be widely spread over the whole body, or may be confined to one part, such as the lumbar region.

In any case it is these fibrous growths which constitute the pathological lesion of chronic rheumatism, and which give rise to all the symptoms of stiffness, aching, pain, and neuralgia, which are so familiar in practice. This condition, therefore, is a sequela of several different diseases, but all agreeing in this, that they cause fibrous tissue proliferation. Sprains and injuries have a similar result. The indurations in question vary in size from a small-shot to an almond, or they may be in larger masses, or widely spread out in the subcutaneous tissue. Their detection requires often a little skill and experience,

but they can usually be readily felt by smearing the skin with oil or vaseline, and then examining by firm palpation with the tips of the fingers. They are most common in the aponeuroses, fasciæ, and ligaments of the muscles and joints of the back, thighs, calves, shoulders and neck, but may occur almost anywhere in the body. They are tender on firm pressure, and this often helps one to locate them.

Once these indurations are well established they become very sensitive to the action of cold, damp, east wind, various meteorological conditions, draughts, muscular exertion, and unknown toxins absorbed from the bowel during an attack of indigestion. They are, also, very sensitive to the presence of a rheumatic sore-throat. Under the action of these various irritants they swell slightly, and exert pressure on neighboring nerves, or on nerves which actually pass through them. According to the extent of this there result stiffness and aching, or, perhaps, pretty acute pain. There is, also, a sense of great muscular tiredness, a feeling of general fatigue, and disinclination for active exertion. The slight swelling is most probably due to exudation of serum, but whether this is the case or not, if muscular movement of the part be kept up, or gentle friction be exercised over the induration, the tension is lessened, and the pain and aching generally pass off, for a few hours, at any rate.

Many people thus afflicted are never quite free from discomfort and aching, while others only suffer after exposure to wet, or after severe muscular exertion, or in consequence of some other definite exciting cause. In certain patients these symptoms may recur again and again in the same part, as in the muscles of the back when it is known as lumbago, in the neck when it is called torticollis, or in the thoracic wall when it constitutes pleurodynia.

Very often only the particular part suffers, which has been specially exposed to a draught, or which has undergone severe exertion. Thus, after being on horseback the thighs suffer, or after lifting heavy weights the back and shoulders. In chronic rheumatism the pain may be dull and continuous, or sharp and shooting, or a mixture of both. It is often very sudden and severe on any movement which compresses the swollen indurations, as happens frequently in the lumbar and deltoid muscles, especially after the parts have been at rest. More often it is a dull continuous aching or feeling of stiffness and weight, sometimes worst when the patient gets warm in bed, or on awakening in the morning, or after resting for a time in a constrained position. The aching wears off on active exertion, or on vigorously rubbing the parts. All these symptoms are usually worse in damp weather. The fibrous tissues of the joints are not unfrequently affected at the same time, and this may give rise to slight swelling, stiffness, and a little pain. In a case of moderate severity, the patient looks quite well, is well nourished, and often works hard, but in severe cases the general health and vigor suffer a good deal, and there may be a considerable degree of neurasthenia.

Coming to the important question of treatment, it must be admitted that where many fibrous indurations and nodules are present this tends to be both difficult and tedious. To obtain permanent and complete relief from the condition, the fibrous indurations must be completely dispersed, and we have no drugs which are capable of doing this. The only means of special value are massage and exercise, aided perhaps by the faradic current, although there are other subsidiary measures which are worthy of some consideration. General massage, as ordinarily applied, is of no use. Treatment must be specially directed to any nodules and indurations which can be felt, and to those parts which are painful on pressure. In carrying it out, the muscles of the part should be relaxed, and the shaved skin should be well lubricated with oil, lard, or vaseline. At first the massage should not be too severe, as it is apt to irritate the indurations, and thus cause undue pain, but it can never be done painlessly.

After a few days of treatment, the fibrous thickenings become more painful and defined, and can be more easily felt, and then, once their number and position are known, treatment may be directed to them more exactly and particularly. After a fortnight or thereabouts they become

much more callous, they get more fibrous, and shrink in size. When this takes place much more pressure can be borne, and the fist or even the knuckles may be used on them.

The massage should be carried out daily, fifteen minutes being devoted to each region affected. Only three or four regions should be treated at a time, and it is best to finish with them before commencing any others. The length of time required varies greatly. Recent indurations can be dispersed in two or three weeks, but older cases require three or four months, and many of them much longer. When they are deeply situated, as in the heel, or close to the vertebræ, or in the deep fleshy parts of the thigh, they are difficult to reach effectively, and are seldom completely dispersed.'

In very severe cases, where the patient is much crippled, or there are large masses of fibrous tissue to be dispersed, complete recovery can not be expected, but by stretching, massage, and manipulations, much more freedom of movement may be obtained.

In ordinary cases the prognosis is good, if the patient shows the necessary perseverance in treatment. In prescribing exercises, the movements should be such as are best calculated to stretch the muscles, ligaments, and aponeuroses involved. Ordinary recruit drill, Swedish drill, dumb-bells, Indian clubs, and different forms of india-rubber exercises may all be brought into requisition.

The faradic current is often of considerable assistance, more especially if neuritis be present. It is very subsidiary, however, to the massage. Drugs are of little use in resolving the fibrous tissue. In quite recent cases, potassium iodide is of some value, and so is blistering, and the local application of iodine.

During acute exacerbations, the local rubbing in of methyl salicylate, hot poulticing, mustard leaves, and stimulating liniments, all help to relieve the pain and stiffness. Relief is also given by the internal administration of salicylates, salicin, salol, and many similar compounds. Their action is only palliative, however, as they can not be expected to remove fibrous tissue. If the digestion is disordered, small doses of rhubarb, magnesia, and grey powder, often greatly lessens the muscular pains and aching. In the same direction, spa treatment is often of great value. Where the fibrous indurations are quite recent, they may often be resolved by a course of hydrotherapy, but in obdurate chronic cases the relief given is only temporary, and all the symptoms are very apt to recur within a few months. The same is true of residence in a dry stimulating climate. Relief is always obtained, and in some cases cure, but old cases are only temporarily benefited. In spite of all that has been said and written to the contrary, it is very problematical if dietetic treatment is of any special value in chronic rheumatism. The important point is to avoid indigestion, as this undoubtedly is a cause of aching and pain. Heavy dinners and rich food and wines are to be avoided, but a very large class of the sufferers from chronic rheumatism have never indulged in these luxuries, and they are to be shunned on general grounds rather than as being a specific cause of rheumatism.

In certain cases where massage fails to get rid of hard fibrous indurations, these may be excised surgically. If the little mass of fibrous tissue lies deep and imbedded in fat, the operation is not always an easy one, and requires some experience for its success.

Lastly, persons who are subject to rheumatism should take plenty of exercise, and, as far as possible, lead an out-of-doors life. They thereby become less subject to weather changes, and to the frequent chills and sore throats which bring on and intensify the condition.

[Written for the MEDICAL BRIEF.]

The Care of the Health of Girls.

BY W. B. DRUMMOND, M. B., C. M., F. R. C. P. E.,
Assistant Physician to the Royal Hospital for Sick Children, Edinburgh.
Edinburgh, Scotland.

In most civilized countries investigations have been made in recent years into the health of the school population, and it must be admitted that the results do not furnish particularly inspiring reading. In all the literature upon the subject with which we are acquainted the health and

physique of school children are stated to be unsatisfactory, in many cases very unsatisfactory, indeed.

The latest investigation of this kind on any large scale was undertaken at the instance of the Royal Commission on Physical Training in Scotland, whose report appeared in 1903. A medical examination of school children was made in the public schools of Edinburgh and Aberdeen, six hundred children being examined in each city. From this report it appears that no less than 45 per cent of the school children examined in Aberdeen, and as much as 70.5 per cent of the school children examined in Edinburgh, suffer from disease of some description or another. It must, however, be noted that the schools selected for examination included those attended by the very poorest and worst cared-for children, and that the term "disease" includes the very slightest ailments, such as a few enlarged glands in the neck. But when all such allowances have been made, it is clear that there is something far wrong, something which demands investigation and amelioration.

In this short paper, however, I propose to confine my remarks to the case of girls, and we may begin by considering the state of health of girls at school.

It is unfortunate that the various investigations which deal with this question are not comparable with one another. Different schemes of investigation have been made use of, the statistics have been collected and tabulated in different ways, and the results, therefore, show great apparent discrepancies. In the Scotch report, just referred to, 73 per cent of boys and 67 per cent of girls in Edinburgh, and 44 per cent of boys and 47 per cent of girls in Aberdeen, are reported as suffering from disease. These figures were obtained by different observers.

Some years ago, Combe reported of the school girls of Copenhagen that 60.6 per cent were "sickly" at twelve years of age, 62.7 per cent at thirteen years, and 57.1 per cent at fourteen. Slightly higher figures are given by the same observer for the school girls of Lausanne.

Much lower percentages are reported by other writers. For example: Mr. Arthur MacDonald reports of the school girls at Washington that 6.74 per cent were "sickly" at twelve years of age, 6.94 per cent at thirteen years, and 4.20 per cent at fourteen years.

It is obvious that these figures can not be comparable with one another. No doubt many of the Scotch children reported as suffering from "disease" would not have been counted "sickly" by Mr. MacDonald, and may, indeed, in spite of the presence of some "disease" detected by the sharp eye of the medical examiner have been in the enjoyment of very fair health.

However that may be, the fact remains that the health of a very large proportion of girls at school is far from satisfactory.

The Health of Girls as Compared with Boys.—Girls are not usually regarded as being—in fact, I think I may say they are scarcely expected to be—so strong and robust as boys. School statistics, on the whole, seem to support this idea, although it will be noticed that the Edinburgh boys do not seem to compare favorably with their sisters. There does not, however, seem to be any reason for supposing that girls are naturally more delicate than boys. Indeed Newsholme, in his "Vital Statistics," tells us that in the years 1891-5 female mortality was lower than male mortality at all ages except five to twenty, and only between ten and fifteen was the female slightly higher than the male mortality.

Mortality rate, however, does not necessarily correspond to sickness rate, and I have thought it might be of interest to compare the number of the two sexes coming to the Hospital for Sick Children in Edinburgh. I have added separately the children of school age, and those under school age, and get the following results for the period examined:

Under six years of age: Boys, 2,136; girls, 2,079.

Between six and twelve years of age: Boys, 550; girls, 630.

So far as these figures go, girls seem to be, if anything, slightly more healthy than boys before the school period, while during the school period illness is decidedly more common among girls. An examination of the sickness rate, therefore, appears to corroborate what we find on examining the mortality rate, namely,

that girls are naturally, and remain during the first few years of their lives, quite as healthy as their brothers, but that during the school period some influence is at work whereby both the sickness rate and the mortality rate increase until they surpass the corresponding rates for boys.

The Care of the Girls' Health.—When, therefore, we turn to the consideration of the special care required by girls, we find that our topic narrows itself naturally into the care of *school girls*. So far as little girls under six years of age are concerned, we have nothing special to say at all. Let them be brought up like their brothers. Let them have plenty of good plain food. Let them have abundance of exercise, and especially of play, in the open air. Let them breathe fresh air night and day. Send them to bed early, and let them have long hours of sleep. In short, let them lead, as far as possible, a healthy natural life in healthy surroundings. What is good for their brothers is good for them. What is bad for the one is bad for the other.

When the children come to be of school age, however, we find that some special thought is necessary, not so much, in the first place, because a school girl needs different treatment from a school boy as because she needs the *same* treatment, and often fails to get it.

I do not know how it may be in America, where co-education is carried out to a far greater extent than in Great Britain, but there can be no doubt that with us, at any rate, there is in many schools a grave neglect of physical exercise. It is not nearly sufficiently realized that physical exercise is just as much a necessity for growing girls as it is for boys. It is not nearly sufficiently realized that the culture of the body is just as important as the culture of the mind, for healthy mental development healthy bodily development is a prerequisite. If girls are weakly and anemic in body, we can not expect them to be alert and robust in mind. These statements are truisms to the physician, but they require to be energetically pressed upon the attention of parents, and teachers, and school authorities.

It is true that there has been of late a considerable improvement in girls' schools. A generation ago, seminaries for the education of young ladies still advertised among the accomplishments taught calisthenics and the use of the gloves. Open air exercise took the form of a short walk *en crocodile*, when the weather happened to be fine.

Nowadays there are many girls' schools of the better sort which recognize that the claims of physical exercise can not be sufficiently met by lessons in calisthenics and deportment, and hence playgrounds, lawn-tennis courts, and even playing fields have been provided.

Girls themselves have not been slow to take advantage of such opportunities, and there can be no doubt that among the better classes in Great Britain the physique of girls has noticeably improved. Much, however, still remains to be done, and the medical apostle of fresh air and exercise may still find plenty of people to preach to.

The exercise taken by girls should not only be sufficient in quantity, it should be suitable in kind. Gymnastics and drill have a useful place as school exercises, and dancing also is of value. But for growing girls *lively* exercise in the open air, such as is afforded by games, is of the greatest possible advantage, and is enjoyed by the girls themselves as much as by boys. Swimming, when it can be indulged in, is a splendid exercise; so, also, is rowing; and skipping has the advantage of being always available.

Next to exercise in importance may be placed feeding, and I place it after exercise, not because it is less important, but because exercise is the great promoter of the appetite whereby food is enjoyed. If girls are to do good work at school, they must be plentifully fed. The food given should be varied, nutritious, and appetizing. No doctrine is more mischievous for growing girls than that it is unladylike to have a good appetite. The teachers of poor children in the lower parts of large cities know very well how impossible it is to get good educational results from children who come to school insufficiently fed. The girls' meals should be of a social character, for cheerful conversation promotes both appetite and digestion, and sufficient time should always be allowed for them.

During certain periods of a girl's life special care is necessary. One of these is the early school period, say from six to twelve. This is the period of the second dentition. During the early part of this period girls grow rapidily, but seem to suffer very readily from fatigue. During this period many nervous disorders of a functional character are apt to make their appearance, and to such disorders girls are well known to be more liable than boys.

The influence of age is very well shown in a table which Dr. Still has just (December 16th) published in the *Lancet*. This shows the age incidence of one hundred consecutive cases of habit spasm, one of the best examples we could have of a functional neurosis. Out of one hundred consecutive cases the symptoms appeared at 3 years of age in 6, at 4 years in 7, at 5 years in 14, at 6 years in 18, at 7 years in 18, at 8 years in 14, at 9 years in 12, and rapidly fall to 8 at 10 years, and to 3 at 11 years. Out of one hundred cases, then, no less than 36 began between the ages of 6 and 8, or 60 cases between the ages of 5 and 9.

This one example shows very clearly that the early school period is one when such functional neuroses are apt to arise, and there can be no doubt that school life itself is usually the exciting cause. Many of the children who suffer in this way get better very rapidly if they can be sent to the country to live a healthy out-door life, but if they return to school too soon the trouble is apt to recur.

These considerations emphasize the importance of what has already been said about fresh air and exercise and food. They also indicate the importance of arranging the work of the school in such a way as to obviate as far as possible the influence of fatigue, and excitement and worry. Fatigue is an important factor in school work, and there is a great deal about it which we do not yet understand, but investigations which have been made in recent years in America and elsewhere show that the various subjects studied in schools differ very much in the amount of fatigue which they produce, and moreover it has been shown that the effects of fatigue are more rapidly felt by school children at certain hours of the day. Schools, therefore, should take advantage of such investigations, and arrange their time tables so as to reduce as far as possible the bad effects of fatigue.

Worry, also, is an important factor, and children of the so-called nervous diathesis often suffer severely in health from the excitement of school life. This may not always be the fault of the school, but in many instances it is. A fussy or excitable teacher will greatly increase the amount of nervous wear and tear among the pupils. Examinations, competition, rewards and punishments, and other school conditions require to be carefully watched for their effects upon the pupils.

Another period of very great importance is that of puberty. It is during this period that the differences between boys and girls become most pronounced, and in the management of girls special care and foresight are needed. As a rule, puberty appears rather earlier in girls than in boys. It is associated with very rapid bodily growth, which forms the physical basis of the abundant emotional and intellectual life which now develops. This period resembles the early school period, in that the nervous system again shows a great liability to strain, and there is a fresh liability to the development of neuroses, which, however, are rather different from those most commonly met with in little girls of seven or eight. Thus, instead of the habit spasm, the psychical tic, the chorea met with in the younger children, girls during the pubescent period are liable to emotional attacks of various kinds, to morbid cravings, to curious alterations in character, often quite temporary, to hysteria, and even to actual insanity. There appears to be a great liability to exhaustion, both bodily and mental. During this period girls certainly can not stand anything like the physical or mental strain which boys are easily capable of. The symptoms of that curious form of exhaustion which is commonly called over-pressure, are met with much more frequently among girls than among boys.

The period of greatest danger appears to be the early adolescent stage, while menstruation is being established. At this time considerable care is needed if the health is not to suffer. There is a ten-

dency among school authorities to increase at this time the amount of work expected of a girl, but the reverse ought to be done. Indeed, for many girls the amount of school work to be done should be very much relaxed for two or three days every month. By the exercise of a little foresight in the arrangement of the school work, and by giving out work such as essays to be done by the girls themselves some little time in advance, it should be possible to accomplish the end in view without embarrassment to the pupils.

One other point, in conclusion, I must refer to, though it is one which is as important for boys as for girls. This is medical inspection. Such investigations as I have referred to at the beginning of this paper show how much work there is for school doctors, not so much in the way of the treatment of disease as in its detection and prevention. Every building which is used as a school should be medically certified as fit for that purpose. Every school should be periodically and frequently inspected by a medical man to see that its sanitary arrangements are in good order, that its class-rooms are properly ventilated while in use, that its cloakrooms and lavatories are sufficient, and are properly used. The children, also, should be subject to inspection. They should be periodically weighed and measured, and if their development is unsatisfactory the reason should be sought out, and a remedy applied if possible. Sight and hearing should be tested at intervals, and if found defective the parents should be notified and required to seek suitable treatment. The fitness of every child for the work to be undertaken should be systematically considered.

Among the children examined in Edinburgh and Aberdeen, several were found suffering from heart disease or from active phthisis who should certainly not have been at school at all, and others suffering from slighter affections of the heart were found to be taking part in school drill of a kind calculated to aggravate their condition.

It is no part of the duty of an educational authority to provide medical treatment for its scholars, for a school is not a hospital, but it is surely its duty to see that no child in its care suffers injury to its health for want of care and foresight and supervision. This part of its duty can only be carried out by the appointment of school medical officers. To impress this fact upon the school authorities is the duty of the medical profession.

[Written for the MEDICAL BRIEF.]

Ulcerative Colitis.

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Having spent many years of my life in tropical climates, I have naturally paid much attention to dysentery and ulcerative colitis. It is with the latter that I purpose dealing in this contribution. I do not intend discussing the bacteriology, pathology, or morbid anatomy of this obscure disease, but am content to deal with its clinical aspect. My observations are formed partly on the results of my own practical experience, and partly on a study of the somewhat voluminous literature of the subject. I must acknowledge my indebtedness to the works of Maurice de Langenhagen of Plombières (Vosges, France), and Murrell, of London.

There has been a notable increase in the number of cases of ulcerative colitis observed in England of late years. At one time it was a comparatively rare disease; to what the increase is due it is difficult to say, possibly it is associated in some way with the prevalence of appendicitis.

The term ulcerative colitis is admittedly a bad one, for ulceration of the large intestine may be dysenteric, malignant, tuberculous, or enteric. Much difficulty is experienced in distinguishing between the different forms of inflammation affecting the colon.

Ulcerative colitis is more common in men than in women. The majority of cases occur between the ages of twenty and thirty; exceptionally it may occur in children.

The clinical features of the disease are characteristic. The onset is insidious, there is no rigor, and nothing in the early stages to distinguish it from an attack of common diarrhea. Pain is not a prominent symptom, and tormina and tenesmus

are absent. The temperature is persistently high, varying for many months from 100° to 103° F.; sometimes it is but little elevated, and it is usually subnormal during the last forty-eight hours of life. Diarrhea is always a prominent symptom, and is practically unceasing; the motions are liquid and offensive, rarely formed, and consist of mucus with or without blood. Vomiting may be persistent, but is sometimes absent, or occurs intermittently. The tongue is clean, red and irritable, or covered with dirty brown fur. There is no loss of appetite, and the patient demands more food, in spite of the fact that it increases the diarrhea. Loss of weight is always noted, and is frequently at the rate of three or four pounds a week. There is loss of energy, and the patient is usually anemic. There is no mental depression, and the sufferer remains bright and cheerful to the end. Bed sores and ischio-rectal abscesses are common. The duration of the disease is variable, and may extend over a period of three or four years.

The *post-mortem* appearances present considerable uniformity, and there is always a condition of ulcerative colitis throughout.

I am confident that much of my success in treatment depends on careful dieting. It is impossble to lay down rules applicable to all cases, but in the main I favor the system advocated by de Langenhagen. It consists in the administration of such articles of food as nourish the patient efficiently, and leave excrement, which is neither abundant nor irritating. The following is my diet chart, which is modified from time to time, according to the severity of the symptoms, and the exigencies of the case.

Milk, whey—milk does not suit all stomachs. It frequently disagrees when it is given in too large quantities at a time, but given moderately, it is generally digested, and has rarely to be excluded from the patient's bill of fare.

Meat soups (Chicken and other) with every particle of fat removed. Beef tea.

Porridge made of barley; oatmeal; maize; ground rice; arrowroot.

Eggs, boiled, scrambled, or in custards, but not fried, nor as omelets, as fat is to be avoided.

Fish. White light fish, *i. e.*, sea fish boiled, or if fried with the skin and all parts imbued with fat removed.

Meat. Finely minced, very lean roast and boiled mutton, or beef, or veal, or chicken. Sweetbreads.

Vegetables mashed very fine, and passed through a sieve may be given. As a rule it will be found best to give only dry pulse vegetables, such as dry haricot beans, peas and lentils. Mashed potatoes may also be given, but not green vegetables, for even when finely chopped they pass through the intestine without having been through any digestive action, so that they are expelled in the same state as they were eaten. It is necesary to forbid spinach, cabbages, salads, and raw fruits, except in those rare cases where experience shows that they are tolerated and normally digested and assimilated.

Stewed or baked fruits without skins may be allowed; also boiled and baked batter-puddings and custards.

Very little bread should be taken, and that little should be eaten stale or toasted dry.

Wine and all alcoholic drinks should be absolutely prohibited; alcohol acts as a poison on the intestinal canal, and is always harmful. The best drink is pure, fresh spring water, or a light table beer mixed in equal parts with a slightly mineralized table water.

In very severe cases, still greater care must be observed. All fatty matter should be strictly forbidden, and especially pork, except very lean ham. No game, crabs, lobsters, crayfish, or other crustaceans should be allowed. Hashes, stews, rich gravies, sauces, and pastry of every kind, should be forbidden.

During acute exacerbations, patients should take nothing but milk, light cereal porridges, eggs, beef-tea, plasmon, and sometimes a little finely-minced raw meat. When milk is not digested, hot infusions such as chamomile and lime-tree bark may be given. Bread should be forbidden, or given only in very small quantities, in the form of rusks or dry breakfast biscuits.

With regard to purely medicinal treatment I advocate the following measures:

The patient should be kept in bed and at rest, and as far as possible the open-air

treatment should be adopted. There is, as a rule, no advantage in sending the patient to a sanatorium, and it will suffice to keep the windows open day and night. In some cases it is advantageous to keep the patient constantly in a warm bath, the arrangements for which even in a private house usually present little difficulty. A rectal irrigation should be given of borax, ten grains to the pint, at a temperature of 90° F., the patient being in the knee-elbow position. About five pints should be used, and if introduced slowly by syphonage is usually retained, although it may give rise to a little temporary discomfort. The injection should be used twice a day for four days, so as to thoroughly wash away the accumulated mucus. These preliminary enemata should be followed by high rectal injections of some bland preparation of silver, such as the vitellin, introduced in the same way, and with the same precautions. I also favor the use of morphine and opium in all forms, whether given by mouth, hypodermically or rectum.

Astringents of various kinds, such as kino, rhatany, acetate of lead, perchloride of iron and sulphate of copper are useful. Ipecacuanha, which is so valuable in dysentery, is efficacious in from twenty to thirty grains every six hours. No fluid of any kind should be given for at least two hours before each dose of this drug. Sulphate of sodium or sulphate of magnesium, in ounce doses, in solution, in the morning has been recommended. It may be given three times a day, each dose being alternated with a dose of ten grains of sulphate of quinine.

Of the surgical treatment of ulcerative colitis, I can not speak from much personal experience, for it is a mode of procedure I rarely advocate. It is always attended with considerable risk, and should be resorted to only when all other measures have failed.

The operations most commonly advocated are: (1) a right-sided colotomy; (2) the establishment of an anastomosis between the ilium and the lower end of the colon; (3) syphoning the vermiform appendix, and after tying in a rubber catheter, irrigating the bowel from above with copious injections of normal saline solution at 90° to 100° F., allowing it to run out at the rectum.

In the majority of cases it is safer, I am sure, to rely on a carefully selected dietary, with the administration of such drugs as experience has found to be useful. When the patient is well enough to be moved, nothing is better than a short sea voyage.

[Written for the MEDICAL BRIEF.]

Chronic Cystitis in the Female.

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The study of bacteriology and the use of the cystoscope have settled many mooted questions in regard to the etiology, pathology, and treatment of chronic cystitis in both the male and the female. The urethral canal being much shorter in the female, it follows that the bladder is more accessible, and therefore offers a better field for investigation than the male bladder. Since the introduction of the cystoscope, and the postural method of ballooning the female bladder, it has become practically an easy matter to examine every portion of the interior of that organ, and study the lesions there found.

In considering the causes of cystitis, we find that they may be grouped under two heads. The first group we call predisposing causes, because they prepare the soil by weakening the resistance of the bladder wall. The second are the exciting causes, which are invariably the presence and pathogenic action of micro-organisms in the tissues of the bladder.

The bladder, when normal, possesses considerable immunity to infection, and in most cases there must be some one of the predisposing causes present before a cystitis is possible. Retention of urine has proven to be the commonest predisposing cause. Foreign bodies, tumors and calculi, by obstructing the outflow, cause retention, irritation, congestion, ulceration and hemorrhage, thus preparing the soil for the pathogenic bacteria, which are nearly always present in the urine.

Stricture of the urethra, also atony and paralysis of the bladder wall, may cause

retention, followed by cystitis. Traumatism of the bladder wall, due to catheterization, instrumentation or pressure of the head in prolonged labor, acts as a predisposing cause. Congestion of the bladder, due to uterine displacements, pelvic tumors, cystocele and exposure to cold, weakens the resistance of the mucosa.

The ingestion of irritating drugs, such as cantharides or turpentine, or even the presence of concentrated urine, may open the way for infection. The exciting causes are the pathogenic bacteria, among which have been found in the bladder the colon bacillus, gonococcus, streptococcus pyogenes, staphylococcus pyogenes, albus, aureus and vitreus, the typhoid bacillus, the tubercle bacillus, diplobacillus, and several varieties of the proteus. The germs may gain entrance into the bladder through the urethra, from the kidneys, directly through the bladder wall from diseased adjacent structures, or by means of the blood and lymph vessels. The organism found most frequently in the bladder is the colon bacillus, its mode of entrance being either through the urethra, the kidneys, or the adjacent bowel. The gonococcus and pus germs gain entrance through the urethra, which, because of its shortness, is a common passageway. The typhoid bacillus and diplobacillus gain entrance to the bladder through the kidneys. The tuberculous infection usually starts in the kidney and travels along the ureter into the bladder. It has been proven that germs may pass directly through the bladder wall from a diseased uterus or tube, and set up a cystitis in a previously congested bladder. It is believed by many that germs may be carried to the bladder wall by the blood current, and a certain form of ulcerative cystitis probably has its origin in this manner.

Many cases of cystitis are chronic from the beginning, such as the tuberculous form, while others start as an acute cystitis, and pass imperceptibly into the chronic state. The best anatomical classification of cystitis is that of Nicholas Senn, which is as follows: pericystitis, paracystitis, interstitial cystitis, and endocystitis. In pericystitis, the peritoneum covering the fundus of the bladder becomes involved in an inflammation of the adjacent pelvic and abdominal viscera. Paracystitis is an inflammation of the subperitoneal connective tissue in that part where the bladder is not covered with peritoneum. Interstitial, which involves the muscular coat is often diffuse, and terminates in great hypertrophy of the muscle, and marked diminution in the size of the bladder. Endocystitis, or cystitis proper, is an inflammation of the mucous membrane, and it is with this form that we have to deal most frequently.

In classifying cystitis according to the inflammatory product, we have five varieties, catarrhal, suppurative, ulcerative, exudative, and exfoliative. In the catarrhal form, the mucous membrane is red and swollen, and epithelial cells and mucus are poured out in abundance. In the chronic form we find hypertrophy of the bladder wall as a result of the thickening of the mucous membrane, and the infiltration of the muscular coat. The urine in most cases is acid. In suppurative cystitis we usually have a diffuse microbic infection of the epithelial and deeper structures. The urine is full of pus and bladder epithelium, and is often ammoniacal.

Ulcerative cystitis is interesting, because of its close resemblance to gastric ulcer. The infection in these cases is limited in extent, and results in a circumscribed destruction of tissue.

Exudative cystitis is recognized by the fact that we have a deposit of fibrin upon the mucous membrane. In the urine we find fibrin with pus germs in its meshes. This form of cystitis is usually found in puerperal women, and in cases complicated with large pelvic tumors.

Exfoliative cystitis is due to a virulent infection, and is recognized by the fact that we have a necrosis of the mucous membrane, and occasionally of the muscular coat. This is considered one of the most dangerous forms, because of the great destruction of tissue. Careful investigation has proven that the urine is acid in most cases of chronic cystitis. Where the urine is alkaline, it is due to the decomposition of urea into carbonate of ammonia by certain bacteria.

The chief symptom of chronic cystitis is frequent micturition, accompanied by pain. Fever is rarely present in the

chronic form. In arriving at the proper diagnosis, I wish to place especial stress upon the cystoscopic examination. It is easy to make, and requires but few instruments. A urethral dilator, Kelly cystoscope, urine evacuator, head mirror, and a good light, preferably an acetylene gas bicycle lamp, are all the necessary instruments. You may place the patient in either the knee chest or dorsal position. While the knee-chest posture will cause greater ballooning of the bladder than the dorsal, which is sometimes an advantage, still it is a very uncomfortable position, and the patients are often unable to stand the fatigue. With the hips elevated eight or twelve inches it is possible to get a good atmospheric dilatation of the bladder, if the patient is in the dorsal position, with the possible exception of very fat persons.

Local anesthesia in the form of a five per cent solution of cocaine, applied on cotton within the urethra for four or five minutes, renders the examination painless. The strictest asepsis should be practiced throughout. A cystoscope eight or ten millimeters in diameter is large enough for examination purposes. By alternately raising and lowering, and moving from side to side, the handle of the cystoscope, the whole interior of the bladder may be inspected, and pathological changes noted.

It should be remembered that the normal appearance of the mucosa of the bladder is dull white, and the trigone or vesical triangle is normally more injected than the rest of the bladder wall.

A few words in regard to treatment will probably be of interest. In the common forms of endocarditis, irrigation is found to be of much service. For irrigating purposes I use a glass funnel, three feet of rubber tubing and a glass catheter. By means of this apparatus you can regulate the flow and also notice the character of the fluid, which returns from the bladder. The bladder should be distended so as to bring all parts of the mucosa in contact with the irrigating fluid. Solutions of silver nitrate, bichloride of mercury or boric acid are commonly used. In tuberculous cystitis the treatment must be somewhat different. Here we use an emulsion of iodoform and glycerin, and inject it into the bladder, or make a topical application by means of the vesical balloon. This same balloon may be used in ordinary forms of cystitis to make a topical application of a two per cent solution of ammonium sulphoichthyolate and glycerine.

A circumscribed inflammation may be treated by local applications of a two or three per cent silver nitrate solution or pure ammonium sulphoichthyolate. If the cystitis does not yield to the above methods of treatment, we then have surgery as a last resort.

Hast Building.

[Written for the MEDICAL BRIEF.]

Etiology, Symptoms and Diagnosis of Tuberculosis of the Kidney.

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The comparative frequency of tuberculosis in this organ, the recent addition of various aids to our diagnostic armamentarium, allowing radical surgical interference with some hope of success, makes a revision of the symptoms and diagnostic measures at our command almost imperative. Until within a few years we have been accustomed to consider renal tuberculosis as a secondary and rather late manifestation of the disease from some other remote portion of the body, and this error has undoubtedly greatly curtailed any possible advances in surgery. In addition, pathologists have led us to believe that the disease was usually bilateral, that the manifest condition was uro-genital rather than simply renal, and that ascending disease from the bladder was more often the case than not. All of these false conditions were founded on the insufficient data of the late autopsy, inevitably leading the surgeon to the unwarranted idea that operation was contra-indicated. A closer study of cases, however, and particularly the introduction of new methods of diagnosis, of which renal catheterization easily stands first, has shown the fallacy of former opinions, and paved the way to early and

reasonably certain isolation of this disease.

In an organ such as the kidney surrounded by a capsule, with but one exit, and that leading into a hollow viscus, the bladder, manifestly disease can attack it but in one of three ways: by contiguity of tissue, by ascent of the ureter, and by way of the blood stream. Involvement by contiguity is extremely rare, the few cases reported being dependent upon direct extension from tuberculous caries of the spine. As regards the second possible source of infection, viz., ascent of the ureter, in upwards of fifty surgical cases Kelly has never seen an involvement of this nature. There remains, then, infection by way of the blood stream, and it can be put down as an axiom that tuberculosis of the kidney is almost always hematogenous, and that the focus from which the blood becomes infected is most frequently found within the thoracic cavity.

The most common age of infection is between twenty and thirty years; sex seems to have but little influence, as does race. When the disease is limited to the kidney, it is usually unilateral, as happened in ninety per cent of cases reported by Israel, while Hunter claims that ninety-two per cent remained confined to one kidney for a space of four and one-half years following the onset of the initial symptoms. Kroenlein's experience in his operative work is most remarkable; involvement of the right kidney alone twenty-four times, the left twenty-three, and both kidneys but in four instances. This latter report shows to what extent diagnostic skill can be carried.

The constitutional symptoms of renal phthisis are those of tuberculosis elsewhere, anorexia, anemia, with perhaps edema of the feet, afternoon fever, followed by sweating at night, progressive emaciation, while later hectic fever may and usually does supervene. The onset is, as a rule, gradual, though occasionally there may be a sudden pain in the lumbar region in an individual previously enjoying good health, this pain depending probably upon the passage of blood clot or tuberculous material through the ureter. Frequency of micturition accompanied by pain is a common complaint in the absence of direct involvement of the bladder, and significant.

Early in the disease polyuria is the rule, but with diminution in the amount of healthy kidney tissue, the amount of urine is naturally markedly diminished. Pus in the urine is perhaps present in every case, or, at least, dead cells identical with pus cells can be determined by microscopical examination. Accompanying this is a hematuria, either mild in character, so that its presence can be determined only by the microscope, in other cases so severe and persistent as to fill the bladder with clots.

Hematuria, too, may be regarded, especially when slight in amount, as one of the very early symptoms of the disease, and at some time or another as an almost constant happening. Albumen, as is to be expected, is almost invariably present. Casts, while not a necessary accompaniment, have been noted by the majority of writers. The most important symptom referable to the urine is the presence of the tubercle bacilli. The demonstration of this organism, together with the presence of blood and pus in the urine, and with the absence of a diseased bladder or prostate gland, is extremely significant, if not indeed pathognomic of kidney tuberculosis. The absence of the specific bacilli is not, of course, a proof that the kidney is sound.

From a study of the statistics enumerated above, those of Israel, Hunter and Kroenlein, it will be readily understood that in preparing our diagnosis we must keep constantly in mind the benefits that might be derived from operative interference. The disease being in the early stages unilateral and localized, the importance of determining the progress of infection must be manifest. It is then absolutely necessary, if our diagnosis is to be of any benefit to our patient, that it must be thorough, and should embrace the following points:

The presence or absence of tuberculosis of the kidney, the involvement of one or both kidneys, the presence and functional ability of the other kidney in case of the removal of the one diseased. In addition to these three cardinal points, the careful physician should examine as to the possible involvement of any part of the re-

nal tract outside of the kidney, and his work can not be considered finished until he has looked for evidence of disease in perhaps remote parts of the body, such as the lungs, superficial glands, and the joints.

In advanced cases, with the signs present as enumerated above, diagnosis is comparatively easy, but it is with the early stages that we are naturally most concerned, and a positive and thorough opinion is often a matter of difficulty. As has been said, the most important symptom is a demonstration of the typical bacillus, and the diagnostician can only be sure that it is from the kidney by renal catheterization. This procedure will always determine the kidney involved, if but one is affected, and will furnish urine from the healthy, or less diseased side, as the case may be, that may be tested to determine its functional ability, which is a point that must be accurately determined, in case operation on the diseased side is decided upon. The earlier the stage of the disease the more difficult it is to find the specific bacillus, and many slides may have to be examined before success crowns our efforts. It will be of aid to the microscopist to know that a persistent acid pyuria, often of mild degree, is extremely significant of renal tuberculosis, particularly so if the ordinary culture media do not yield an efflorescence of micro-organisms.

Cystoscopic examination directly revealing the condition of ureteral openings is of importance, for with one side diseased and the other healthy, the outlook for treatment is naturally much more favorable. The tuberculin test may be of value, but only in the absence of fever, and its positive reaction only proves that tuberculosis is present within that part of the body; it does not, of course, indicate the organ involved, and the evidence it may contribute might have been gathered much more easily by physical examination.

In women, by vaginal examination, a ureter may be found situated in the anterior vaginal wall in front of the cervix, pressure upon which gives extreme desire for micturition. Absence of such extreme infiltration of the opposite side is in the patient's favor. Direct examination of the lumbar region may reveal an enlarged kidney, but it must not be thought that the kidney enlarged is necessarily the one afflicted with tuberculosis. The non-tubercular organ may become markedly enlarged by reason of amyloid degeneration, or on account of increased functional activity necessarily entailed. On several occasions have these functionally enlarged kidneys been removed rather than its diseased fellow to the chagrin of the surgeon, and the prompt demise of the patient.

Lastly, one must examine remote portions of the body as scars, and the various glandular regions for evidence of bone tuberculosis, and more particularly disease involving the pulmonary system. With attention directed to the methods outlined in this all too brief paper, diagnosis should be reasonably sure. All the symptomatic and diagnostic points enumerated have been made, as can be readily seen, with an eye toward early operation, for it is upon early and thorough eradication of the diseased tissue or tissues that the salvation of the patient depends. Results from climatic and hygienic measures so striking in tuberculosis in other portions of the body, have in renal phthisis been comparatively fruitless.

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[Written for the MEDICAL BRIEF.]

Infective Inflammations of the Hand.

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Infective processes of the hand are so frequent, so likely to impair the usefulness of the member, that any one called upon to deal with such conditions should have clearly in mind all the possibilities in these cases.

One's success in dealing with these matters is not, as in many other things, a result of extended experience, but the result of familiarity with a few fundamental facts of anatomy and pathology. So that one should treat his first case of infective inflammation about the hand with as much intelligence as his later cases.

It goes without saying that the hand is more frequently involved than any other part of the body, for the reason that it more frequently furnishes the little abrasions that afford entrance to the infective germ, and is more frequently exposed by contact.

The active, the specific causative agents are the staphylococci and streptococci. Certain constitutional states are recognized as predisposing causes by reason of their lowering the resistance of the various tissues. Alcoholism, tuberculosis, anemia, syphilis, etc., furnish good examples of conditions favoring the development of these bacteria—once they have found a foothold.

It may be remarked that we have here all the factors which operate to produce erysipelas, and yet erysipelas is comparatively infrequent in the hand.

The tendency of the streptococci is to follow the small lymph channels of the skin, and these do not anastomose freely with the lymph vessels of the subjacent connective tissue. So that in most parts of the body the streptococcic infection confines itself usually to the skin, and produces the phenomena which, taken collectively, are called erysipelas.

In the hand, however, the lymph channels run vertically from the skin down to the connective tissues, so that these latter instead of the skin must bear the brunt of the bacterial attack.

For various reasons, moreover, these tissues are less resistant than the skin, the operations of the bacteria in consequence more effective, and suppuration more likely to occur.

The inflammation confined at first, perhaps, to the subcutaneous connective tissue, soon spreads to the tendon sheaths, and the periosteum of the phalanges. Teno-synovitis next follows, and the pus formed within these synovial canals begins to move in the direction of least resistance.

It will be recalled that the synovial sheaths of the extensor tendons of the fingers, excepting those of the little finger and the thumb, end in a *cul de sac* in the palm, while those of the little finger and thumb are continuous with the synovial bursa that is common to all these tendons as they pass over the wrist joint and under the annular ligament. The result of this arrangement is that in one case the pus does not usually advance beyond the palm, while in the other it points beyond the annular ligament.

When these cases are seen early, and before there are any evidences of pus, an effort may be made to abort the process by the application of hot antiseptic poultices, or by prolonged immersion in a hot bichloride or normal salt solution. If these measures do not rapidly control the pain, which is always a prominent symptom, and is proportionate to the severity of the infection, free incision must be resorted to without delay.

A median incision along the palmar surface of the digits down to the bone will usually be sufficient to relieve the tension, and furnish drainage, and check the inflammation. Sometimes where the periosteum is widely involved, lateral incisions as well must be made. If the abscess involves the palm, the same character of incision must be made, though with due respect to the palmar arches. However, in extreme cases, even they may be disregarded.

In those cases in which the pus has followed the synovial sheaths into the wrist, a special form of drainage may be necessary to avoid incising the annular ligament. In case the pus has followed the flexors of the thumb into the wrist, drainage is established in this manner:

Make an incision through the skin forming the web between the thumb and index finger, push an artery forceps through the incision along the line of the flexor tendon, until the point may be felt beneath the skin above the level of the annular ligament. The forceps has passed under the annular ligament. Make a counter incision over the point of the forceps. The forceps now seize a drainage tube, and as they are withdrawn, pull the drainage tube into position.

Drainage may be established along the line of the flexors of the little finger in the same manner.

In the severer and neglected cases, contracture of the palmar fascia occurs with permanent flexure of the fingers. The tendons form adhesions to their sheaths, the nutrition of all the tissues is impaired,

so that there are various degrees of deformity and loss of function.

Massage, hydro-therapy, electricity must be employed with patience and persistence with a view to breaking up adhesions and restoring circulation. Sometimes operative measures alone will release the tendons, and restore a partial usefulness.

In rare cases a distorted, useless and painful hand, may call for amputation.

217-19 Newton Claypool Bldg.

[Written for the MEDICAL BRIEF.]

Pediatrics.

BY CHAS. MOIR, A. B., M. D.,

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Pediatrics to-day is recognized by all the leading medical schools as a separate branch of medical teaching, and this subject is taught separately from general medicine. In the catalogues of our medical schools you will find the title, Professor of Medicine, and Professor of Pediatrics. Why is this necessary, as both are dealing with diseased conditions, other than surgical, in the human body, one in the adult and the other in the infant and child?

When we consider that in the first class of patients (the adult) we have their intelligence to guide us, while in the other class (infants and children) we have not. Then, too, there is a wonderful difference in these two classes from an anatomical standpoint. The anatomical development of the adult being complete, while that of the pediatric patient is undergoing rapid development.

The relative positions of the different organs of the infant and child, as compared with the adult, produce different symptoms in the same diseases.

It is my belief that every medical school should compel dissections on the infant and child as well as on the adult cadaver. If this were done, the student would be better equipped to battle with diseases in his little patients. We must remember that the rapid growth and development in these little patients, as compared with the adult, renders them more susceptible to changes, and causes more acute symptoms. The attacks of disease are more sudden, shorter in duration, and of greater intensity.

The difference in the nervous system of these two classes of patients is equally marked. In pediatric patients the nervous systems bind every portion of their bodies in a sympathy so close that an affection of one part may cause general systemic disturbances, and often symptoms will be reflected, particularly in a very small child, directing attention to organs distant to those really diseased.

In the pediatric patient we have not the vices to contend with that are characteristic of the adult patient, viz., overindulgence in alcoholics, narcotics, tobacco, etc., nor have we tissue lesions to contend with, overwork either mentally or physically. Those and a great many more reasons explain why these two branches of medicine are taught by separate professors.

Method of Teaching Pediatrics.—Clinically by all means, as in no other way can the diseased conditions of these little patients be forcibly impressed upon the student. Didactic lectures can always be found in the first-class text-book, and can be reviewed by the student at leisure, I do not, therefore, take up his time by didactic teaching.

In diagnosing disease in these little patients, I try to establish a date as to the onset of the diseased condition, questioning the mother or nurse carefully and patiently as to the daily regime, feeding, etc. Investigate the hygienic surroundings, and elicit all the information possible before beginning your examination.

My next step is an inspection of the patient. In an infant the only symptom of a diseased condition may be *crying*, and it is to this symptom that I wish to call particular attention. The cry of a sick infant or small child is often pathognomonic. The cry of trauma is violent, and the storm is quickly over. A perfectly healthy infant or child rarely cries, but when disease is present all this is changed, in proportion to the severity of the attack. An expression of suffering is

present, his features are markedly changed, and this "feature reading" of diseases is an important point, as with a knowledge of these two symptoms—crying and feature reading—we can arrive at an intelligent diagnosis. Who that has ever heard the hydrocephalic cry that can not distinguish it from any other; it is a short sharp cry, paroxysmal in character, very loud, and is more of a shriek than cry, and is soon over. On the other hand, those who have heard the cry of pneumonia or pleurisy (which I class as the suppressed cry) will never forget it. It is a jerky sob, and the patient will fight against crying in either of these diseases, as the necessary expansion and contraction of the lungs during the act of crying necessarily produces increased pain.

The cry which occurs before or during an evacuation of the bowels has its own peculiar tone, and when accompanied by excessive wriggling of the body is positive proof of intestinal disease.

The nervous cry, which occurs when the child is looked at; the nasal cry, where a peculiar tone is produced indicating obstruction of the upper air passages, are distinctive. A loud indignant cry is indicative of an approaching attack of spasmodic croup. An almost inaudible cry is due either to extreme emaciation or diphtheria. The peculiar cry accompanied by pursing of the lips is positive evidence that we have a case of gastro-intestinal trouble, and so on.

I do not rely upon these diagnostic factors alone, but make a most thorough physical examination.

What I want to emphasize, however, is the importance of the foregoing facts. If we carefully study the cry of our little patients, as well as cultivate and master the art of feature reading of diseases, a great many mistakes of diagnosis will be avoided, particularly if we never fail to use all other means of making a careful physical diagnosis.

2403 Third Avenue.

You will herewith find enclosed one dollar for the MEDICAL BRIEF. Although not of my school, the BRIEF is full of good things.—C. O. DEEMING, M. D., Rock Falls, Ill.

[Written for the MEDICAL BRIEF.]

An Unusual Case of Appendicitis.

BY JULIO J. HENNA, M. D.,

Consulting Physician French Hospital.
New York City.

About three years ago a lady, twenty-nine years of age, was taken ill with what I diagnosed as an acute attack of appendicitis. The attack was characterized by the usual symptoms of pain, vomiting, distension of the abdomen, weak pulse, and general depression, but no elevation of temperature. After the usual treatment she recovered sufficiently to resume her occupation a few days afterward. Since then she has had similar attacks every three or four weeks, but in no instance was there a rise of temperature above 100° F.

What impressed me most in these attacks was the character of the pain, a sort of spasmodic contraction of the bowel, simulating and very much resembling the pain produced by the passage of *renal calculus*, so much so that had the pain been felt on the left side of the abdomen, instead of the right, I might have been inclined to consider the case one of true renal calculus. Between the attacks there was always present an acute sensibility to the touch over McBurney's point.

As time passed the patient kept growing decidedly weaker and emaciated, and the recurrences of the attacks were so approximate that at last she decided to undergo an operation.

This was performed in the presence of, and with the assistance of Dr. Charles H. Peck and Dr. Weygart, of this city.

The operation presented no difficulty, and the appendix was reached without much trouble. This was found perfectly free and movable, but of unusual length, three and one-quarter inches, thick, but very slightly inflamed. After its removal and the wound closed, we proceeded to examine the appendix very carefully, the husband of the patient demanding the privilege of being present.

To the touch the organ revealed the presence of some foreign bodies within, the nature of which we could not very well determine. We then proceeded to open it

with scissors, and to our great astonishment we found in it a sharp-pointed tack, half an inch long, and two hard concretions. These have been carefully preserved.

On carefully questioning the patient, who is a dressmaker, she remembered to have swallowed pins, needles, buttons, and even a thimble, but she does not remember having swallowed the tack.

You will notice that the paroxysms of pain experienced by this patient were more a contraction of the appendix, which undoubtedly was trying to expel the three foreign bodies, than acute inflammatory pain, which we usually meet.

Likewise may be explained the absence of fever in the repeated attacks which the patient suffered.

The presence of foreign bodies in the appendix, as factors of appendicitis, having been denied by so many authorities, I deemed it best to give the names of the physicians present at this operation, who saw these foreign bodies removed from this appendix, and who join me in dissenting from that opinion.

24 West Seventy-second Street.

[Written for the MEDICAL BRIEF.]

"Some Reflections on Asthma."

BY C. H. POWELL, A. M., M. D.,

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It is very questionable whether any disease that confronts the physician is attended with less favorable results in treatment than obtains in the case of spasmodic asthma.

It is a well-known fact that the constitutional makeup of every individual predisposes him to disease manifestations in one direction or another. Thus, we observe that a family illustrates neurotic manifestations in different directions. One member of the family may be epileptic, another may show criminal degeneracy, while a third member of the same family is characterized by explosions which show themselves in the shape of asthmatic outbreaks.

Accordingly, when we are consulted by one who gives a history of asthma, the first point we should take into consideration is a careful investigation of his family history. Where a nerve influence appears to be a potent factor in the case before us, the plans of treatment conducive to successful results are manifestly different from that form of asthma that occasionally confronts every medical man, due to some local or reflex irritation.

To indicate my meaning, I will say that given a case where the father was a confirmed epileptic, and where a brother was likewise afflicted with *petit mal*, and where a brother on the father's side served time in the penitentiary for some illegitimate act, it would be reasonable to infer that the same influence that so conspicuously manifested itself in the other members of the patient's family exercised no small role in at least perpetuating the asthmatic condition of the patient.

Accordingly, for the relief of his condition, the employment of a class of drugs, largely sedative and alterative in character, would be indicated.

Again, given a subject of asthma who elicited no such hereditary tendency, we would search for the cause of his asthmatic attacks not so much in his family history as in the anatomical construction of the individual.

In line with our investigations we would examine his nose for abnormal conditions, such as tumors, polypi, deflected septa, diseased turbinated bones, and the various evidences of rhinitis, etc. Furthermore, we would examine his throat for changes in the tonsils, such as hypertrophy, or, further down, we would make a laryngoscopic examination of his larynx for possible pathological changes.

In the event in the second class of cases of our ability to discover well-marked pathological changes, in one direction or another, the successful treatment of this class of cases would be indicated by the removal or correction of whatever abnormal conditions are present.

It has been demonstrated by our expert microscopists that the sputum of the asthmatic subject is disposed to form itself into a series of rings, very closely resembling a watchspring or spiral, and accordingly Curschmann has given these spirals his own name, and denominated them Curschmann's spirals. These spirals

should always be sought for in the suspected cases of asthma, and when found the diagnosis of the disease is absolutely unquestioned.

Physicians are inclined to the conclusion that the diagnosis of asthma is a very simple procedure, and they place main reliance upon, first the form of the patient's chest, which is denominated barrel-shaped. Second, from the presence of innumerable sonorous and sibilant rales; third, from the sudden attacks of dyspnea, which invariably characterize a sudden asthmatic explosion, whereas it is a well-known fact that particularly where the disease becomes confirmed, that we find invariably the conditions above referred to, at the same time, there are cases of asthma that may be said to deviate from the so-called typical form of the disease.

Accordingly, our writers divide asthma into pulmonary and cardiac asthma. It is in diseases of the heart particularly, that great disturbance of breathing frequently shows itself, and the patient is erroneously believed to have spasmodic asthma, so-called.

Especially is this the case in that form of neuralgia of the heart technically known as angina pectoris. This fact alone exemplifies the necessity for careful examination of the heart, and unless such examination is carefully made, little or no aid from therapeutics can be expected. At a glance it can be readily determined that where cardiac dilatation is present, where the pulmonary blood vessels are engorged, as a result of heart weakness, that the only intelligent plan of treatment consists in directing the therapy towards alleviation of the cardiac abnormality. Here such a remedy as digitalis, combined particularly with rest in a horizontal position, together with the application of those remedies to deplete the already distended blood vessels, are indicated. Under this head cathartics are especially noted, and the relief of the patient by attention to these details can be effectively carried out.

In line with reference to the therapeutic efficacy of drugs in the treatment of the so-called spasmodic asthma my paper would be incomplete without reference to the utility of iodide of potassium. We can give the remedy in order to bring the patient fully under its constitutional effects, much as in the case of the syphilitic subject, then increasing the doses gradually, using the saturated solution of the remedy. Or, we can place the patient upon a fixed dose, and continue the remedy at the same dose prescribed for an indefinite period. Ordinarily from five to ten grains of the iodide of potassium is given three times a day, but very few cases of spasmodic asthma will fail to become benefited by the iodide treatment.

After all, it is the effort of the attending physician to endeavor not only to relieve the patient during the asthmatic attack, but to limit as much as possible a recurrence of the paroxysms. The iodide of potassium has no influence whatever in mitigating the severity of the paroxysms; its utility lies entirely in the fact that it will lessen the number of the paroxysms, and is supposed to bring about this much desired condition by its peculiar absorptive properties upon superfluous tissue which exists in the lungs by the gradual development of hyperemic involvement of the lining membrane of the bronchii and bronchioles, together with a tendency to enlargement of the bronchial glands and glandular system. Therefore, the successful treatment of spasmodic asthma hinges not so much on the treatment of the disease *per se* as upon conditions that are largely instrumental in bringing about and perpetuating the asthmatic condition.

In this state, aside from the local causes enumerated, bronchitis manifesting itself especially in grippal attacks are especially productive in causing a violent and sudden attack of spasmodic asthma in one so predisposed. Accordingly, the treatment of this class of cases would hinge upon a careful attention to the bronchitis. In line therewith, special care in the avoidance of cold in any shape or form is insisted upon; proper dress, well regulated exercise, ventilation of rooms, especially in places of amusement, etc., are all to be taken into account by the individual who is known to be of asthmatic tendency, and avoidance of any or all of these influences is to be regarded by such a patient.

I might go on *ad infinitum* to enumerate a long line of remedies that are fre-

quently resorted to in the treatment of this disease, and had I more space at my disposal, I would have gone extensively into these agents, and particularly have referred to the treatment of the patient, not alone in the interim between the paroxysms, but as well what should be done during the spasmodic seizure. Possibly in the future I may treat this subject at greater length, including the climatic conditions that should be taken into consideration in dealing with this class of patients.

Century Building.

[Written for the MEDICAL BRIEF.]

Insomnia During Pregnancy.

BY E. GUSTAV ZINKE, M. D.,

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Cincinnati, Ohio.

It is not uncommon for women to be troubled with sleeplessness during pregnancy. When present, it is a very annoying and sometimes troublesome complication, but one which can be readily relieved by certain measures.

We should always attempt to relieve insomnia by natural means, if possible. If the case is one where you have been able to attend to the general hygienic condition and welfare of the patient, looking to her emunctories (the lungs, skin, alimentary canal, kidneys, liver, mode of living, manner of dress, etc.), if all of these are correct, you may advise an additional amount of outdoor exercise.

Frequently insomnia is the result of an insufficient amount of physical exercise. If it be due to an indiscretion in diet, that must be corrected. Retiring at a regular hour every night after a light meal, taken two hours before, is a rule always to be enforced. In persistent insomnia it is best to administer some medicine.

One of the mildest sedatives is the bromide of potassium, from fifteen to twenty grains, before bedtime, will be sufficient in a light form of insomnia. If not, you may prescribe several doses before bedtime, beginning, for instance, at four o'clock in the afternoon, and directing her to take fifteen or twenty grains, well diluted, every two or three hours until bedtime. Two to three doses may suffice. With the bromide of potassium fairly good results may be obtained, but it is often disappointing.

Twenty-five and thirty years ago, the administration of chloral was very much in vogue. It is a drug that always served me well. Many other remedies have since been introduced to take the place of chloral, but, in my experience, none were as satisfactory, and I have returned to the chloral hydrate, which seldom fails to give relief. You may begin with ten, fifteen or twenty grain doses. If the insomnia is well marked, it is better to prescribe twenty grains in solution mixed with one-third of a glassful of water, with a similar amount of water, to be taken immediately after, which will remove the taste of the drug at once.

Very often twenty grains will be amply sufficient to cause the patient to sleep, perhaps all night; all will depend upon the degree of the insomnia. If twenty grains will not accomplish the desired result, the patient may be instructed to take a second dose, an hour after the first, and repeat it, if need be, every hour until sleep is secured. Three or four doses may be administered with perfect safety to the patient as well as her child.

After having ascertained the amount of chloral necessary to produce sleep, the dose should be gradually reduced. Let her take a dose every hour, she may require only two or three, perhaps only one, and, after reducing to a single dose, then the amount of this dose should be lessened by degrees. This is the most effective method in the treatment of insomnia during pregnancy.

Despite what some books say on the subject, chloral can be administered with perfect safety. Full and often repeated doses have been given, especially abroad where this practice is more in vogue, for weeks and even months, without any deleterious effect upon the mother or her child. There is no single hypnotic which can be administered for so long a time without ill effects or serious consequences. I know individuals who have taken chloral hydrate for many years with more or less regularity, and the same dose is always sufficient to produce the same effect. The dose need not be increased.

If ten grains of chloral are sufficient to induce sleep one night, the same dose will do it again. I now very reluctantly resort to any other drug. I use the chloral hydrate from the start, and I am rarely disappointed. Should you fail with it in a certain case, you still have the opportunity to try other remedies. In my opinion, chloral hydrate is the best remedy. None of my patients have ever become habitues.

13 Garfield Place.

[Written for the MEDICAL BRIEF.]

The Stomach—Its Minute Anatomy and Its Secretion, Together with an Original Definition of a Gland.

BY ARTHUR C. BELL, A. M., M. D., PH. G.,

Dean of the Faculty and Professor of the Principles and Practice of Medicine, Clinical Medicine, Materia Medica, Therapeutics and Ophthalmolgy: College of Physicians and Surgeons, Dallas, Tex.; Ex-Professor of Pathology and Physiology in the University of Dallas; Ex-Professor of the Practice of Medicine and Materia Medica Dallas Medical College, Dallas, Tex.; Ex.-Third Vice-President Tri-State Medical Society. Dallas, Tex.

The stomach is a wonderful organ. It is, indeed, a hollow gland. It is marvelous in its mechanism. No anatomy can command more respect. It is the first great chemical laboratory in the gateway leading to the system. It is one of the two great laboratories. It is the acid laboratory in which the Great Chemist dissolves all foods used by man, and converts them into a substance called chyme.

In this laboratory, simple as it is, with only two re-agents, hydrochloric acid and pepsin, the Great Master causes to fall to pieces every food known to the race.

Then he passes the substances onward through the gate of St. Peter, called the pyloric orifice, where it is exposed to a new chemical laboratory. This is the alkaline laboratory, the intestine. The Great Master of Chemistry needed but two laboratories by which his children might dissolve, digest all foods needed for his body. The first was an acid by which foods fell into pieces as chyme. The second was alkaline, by which this food fell down into finer divisions. Not like so many colleges, proud to show a large and handsomely-equipped laboratory.

This laboratory is not for public inspection. All the Master shows, in a general way, is as round a little belly as one might wish to see. How different the gods from men! The Great Chemist exhibits a stomach, and an intestine. Man exhibits retorts, blow pipes, filter stands, and showy paraphernalia. The stomach persistently dissolves other living tissues, but stubbornly refuses to dissolve itself. No man may tell us why.

Let us proceed to demonstrate the minute anatomy of the stomach. Look at cut (Fig. 1). You will see the inner coat (MM). It is the beautiful mucosa. This is the honeycomb coat. This constitutes the glandular coat of the stomach. You can see that this coat is magnified, so that you may perceive the peptic follicles (P. F.). These peptic follicles are magnified as in cut (Fig. 2 or Fig. 3). These are the cells which throw out pepsin and hydrochloric acid. This mixture of pepsin and Hcl, so marvelously simple, constitutes the first great solvent for all the foods of man. Acid and pepsin, mighty solvent, dissolves other living tissues, but refuses to dissolve the stomach. Acid and pepsin, mighty antiseptic, purifies the contents of the stomach, and keeps down abnormal ferments. Master stroke of the Great Alchemist. Simple the thought, but full of power.

The muscularis mucosa (Mus. M.), is a thin fragment of muscular tissue, having two layers, an external longitudinal and an internal circular layer. This serves as a base for the peptic follicles to rest upon. This is not considered as a separate coat. Neither could it be called a basement membrane.

The next coat is the submucosa. This coat is made up of connective tissue strands, blood vessels, nerves, lymphatics, and intercellular cement substance, uniting the cells all together. This is much coarser than the mucosa. It is strong and firm for protection. It is to transmit the blood vessels and nerves to the secreting mucosa. External to this are the three muscular layers.

Longitudinal layer (L. M.).

Circular layer (C. N.), and oblique muscular (O. M.) layer.

When the longitudinal layers contract the stomach becomes shorter.

When the circular muscles contract the stomach gets smaller.

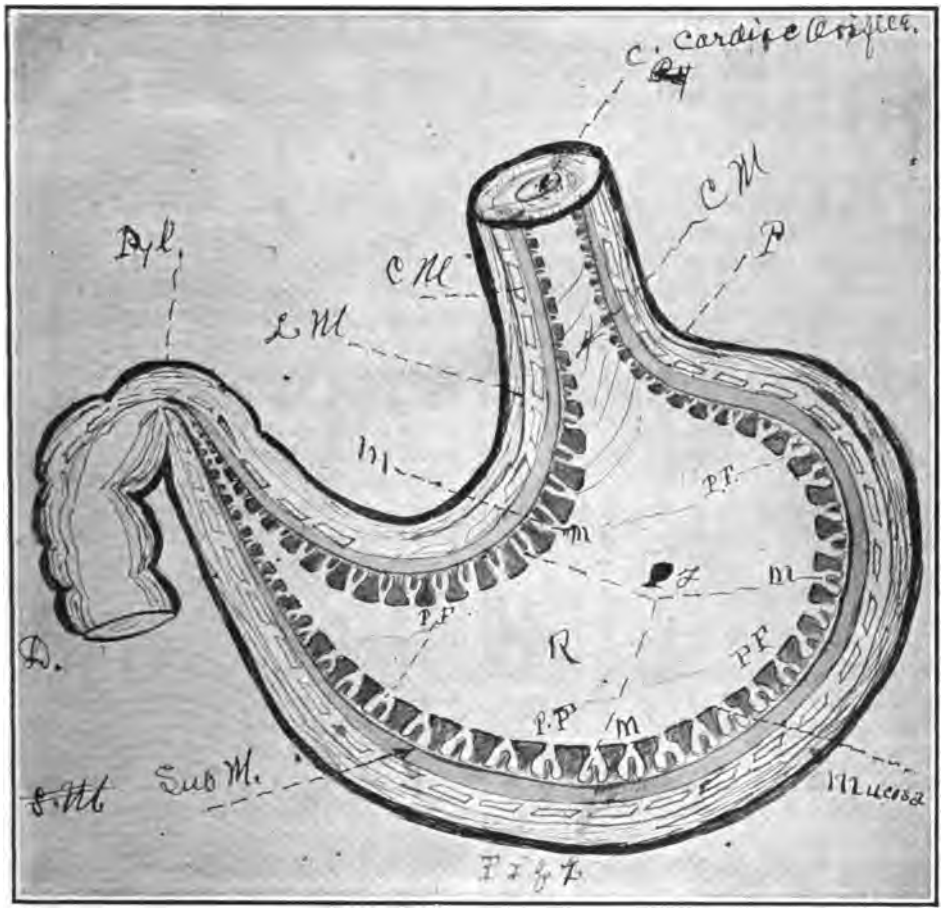
This is what happens when baby vomits.

The most external layer is the celebrated peritoneum. This is a strong sheet of connective tissue.

The books are not exactly plain as to what a gland is.

I will tell you. We all need to know.

In its final analysis a gland consists of at least one epithelial cell (E. C.) affixed to a small section of a basement membrane (B. M.) by intercellular cement substance. Then under this basement membrane (B. M.) there must be a section of capillary (C.). Thus, the unit of gland substance is one epithelial cell, basement membrane, and a section of a capillary. Fix this thought in your mind. It is the glandular unit. The stomach, liver, or kidneys are simply congregations of these microscopical glands. Thus, a large gland, as the spleen, is simply a host of little glands.



C, cardiac orifice; Pyl., plyoric orifice; P, peritoneum, 4th coat; L. M., longitudinal muscle layer; C. M., circular muscle layer, 3d coat three muscular layers; Sub. M., submucus layer, 2d coat; Mus. M., muscularis mucosa; M. M., mucosa, 1st coat; D, duodenum; C. M., circular muscular layer; R, rugae or folds, P. F., peptic follicles.

The pyloric orifice is at (Pyl. Fig. 1).

The cardiac orifice is at (C. Fig. 1).

The rugæ (R.) are simply folds in the mucous coat of the stomach.

Part of the duodenum (D.) may be seen.

Thus there are four coats, the mucosa, the submucosa, the muscular, and the peritoneum.

I will now explain secretion and what it is.

Thus, the epithelial cell (E. C.) is simply an unicellular animal. He works and performs his duty unerringly. He becomes tired. He rests. He hungers. He can not move from place to place in search of food. It is brought to him. It is sent to him every hour, every moment by the Great Physiologist. Look at the capillary (C., Fig. 4). That capillary brings blood. The serum of the capillary transudes through the walls of the capillary. Serous transudation. The epithelial cell absorbs this serous transudation and assimilates this fluid food unto himself. He appropriates it unto himself.

Thus, assimilation takes place at any microscopical cell in the body. Now, what is secretion? Here it is. The epithelial cell eats or absorbs his serum food. At the free end he throws off the waste of his body secretion. Thus, his bowels act, if he has a bowel, and you call it secretion.

Thus, I have explained to you, both what a gland is, and what secretion is. The secretion or excretion of a cell, or gland, is the waste product of a gland or cell. It is called excretion if it is of no more service to the body and is thrown off. Ex means out.

You will perceive that the cell (E. C.) is required to absorb his food up through the basement membrane (B. M.). The basement membrane is also made up of a single layer of endothelial cells. Each cell gets its food from the serous transudation. Cells which are not glandular do not secrete. Their waste is taken up by the lymphatics and thrown into the sewer system, the thoracic duct.

The Master Physiologist has so fixed these cells that an epithelial cell in the liver will select such food from the serum as will be bile when he throws it off as his waste. If not bile it will be glycogen, or urea. He has constructed their appetites so that each would select for food such material as should be removed from the system. It is not only good food at that time, but his select food. Thus, the gastric follicles select such food from the serum which transudes from the capillaries around them as when absorbed by the cells in the peptic follicles, will produce a waste, an exudate which we smack our lips upon, and call it pepsin and hydrochloric acid.

The epithelial cells in the kidney are made so as to select such serum from the blood as will be urine when it has been used in their bodies first as food, and then as waste. When thus their bowels move we call it urine. The food they ate was not urine, but they made it urine by their own economy. See the wisdom of heaven.

The epithelial cells in the salivary glands absorb such waste as will be their food. When their bowels move it causes the mouth to water with their juicy offal.

Look at Fig. 2 and examine the cells (c. c. c. c. c.). Each central cell is identical with the epithelial cell (Fig. 5), and each one is a perfect, but minature gland as Fig. 5. Each gland (C. C. C. C.) is an animal perfect and distinct in and of itself. Each one survives upon the serum which exudes out through the capillary (Cp. Cp. Cp.).

Each cell is, of necessity, resting upon a small section of the basement membrane (B. M., Fig. 5).

The basement membrane reminds me of an open glove finger, with the epithelial cells cemented against the inside, and a capillary plexus of blood vessels resting around, woven around, the outside, which exudes serum for the nourishment of the epithelial cells inside. It is plainly apparent then that what is commonly considered a gland is multiplied millions of glands. A gland is always at least one epithelial cell resting upon a basement membrane, with a capillary on the opposite side of the basement membrane. This definition is universal. It is like an oyster fixed to the coral seas, and absorbing its food from the nourishment in the sea waters. Like the epithelial cells, it is an animal. The oyster has the power of intelligent selection of his food. The ocean is charged with foods for many classes of animals. He simply absorbs that material suited to his use, and omits the rest.

Thus, the epithelial cells are flushed with the fluids of the blood, the serum. This serum has in it the food from the latest meal, and all the waste products carried and thrown into it by the lymphatics, which absorb all waste products from

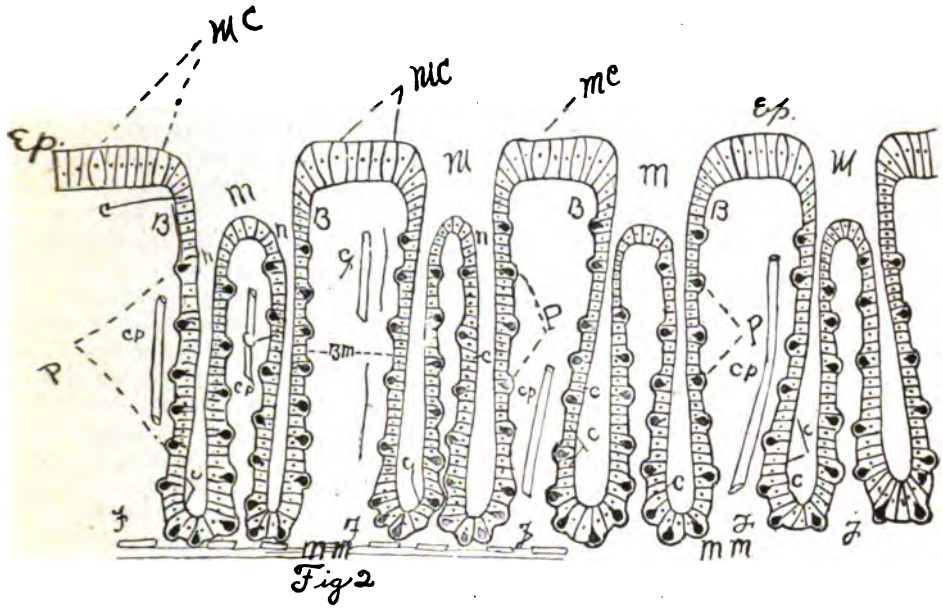


FIG. 2. MUCOSA OF STOMACH.

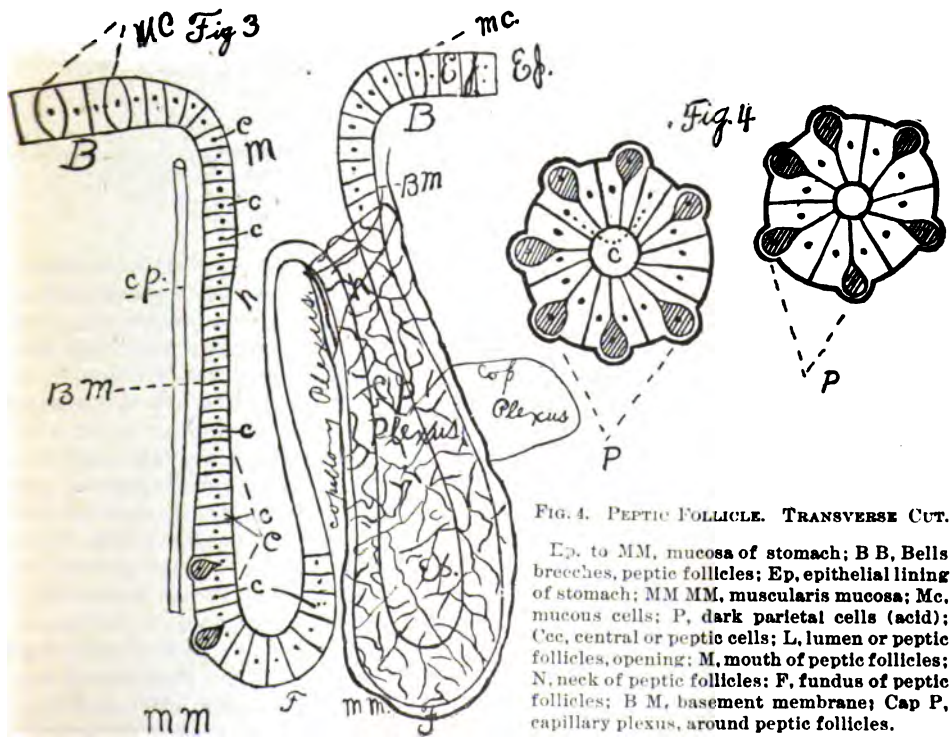


FIG. 4. PEPTIC FOLLICLE. TRANSVERSE CUT.

Ep. to MM, mucosa of stomach; B B, Bells breeches, peptic follicles; Ep, epithelial lining of stomach; MM MM, muscularis mucosa; Mc, mucous cells; P, dark parietal cells (acid); Cec, central or peptic cells; L, lumen or peptic follicles, opening; M, mouth of peptic follicles; N, neck of peptic follicles; F, fundus of peptic follicles; B M, basement membrane; Cap P, capillary plexus, around peptic follicles.

FIG. 3. PEPTIC FOLLICLES.

every cell in the body, and bring it from every conceivable cell in the body, from every conceivable point in the anatomy of man. It is carried to the receptaculum chyli, and then up the thoracic duct, and is poured into the venous blood near the angle of the junction of the left internal jugular with the left subclavian veins.

This waste from all the cells of the body is mixed with the wealth of the latest meals, as it is taken up by the lacteals from the intestines, and mixed with the lymph as it, too, is poured into the receptaculum, and thence up the thoracic duct, as just mentioned.

I suppose that it is obvious that the food from your latest meals is now seen to be mixed with the liquid waste from the lymphatics.

Now, look at the epithelial cells in the stomach. Each one, under Divine touch, is craving just such food out of the serum of the blood as will be liquid pepsin when it leaves him as his waste. In other words, his bowels act, and we call it secretion. The dark parietal cells (Fig. 2) will select just such material out of the exuded serum as will be hydrochloric acid dilutum when after use by him, and passed off as his waste. See the work of the Great Chemist, the architect of the skies.

Look down to the kidneys. There you will find epithelial cells lining the beautiful uriniferous tubules. There, also, you will find the gland, *i. e.*, an epithelial cell cemented upon a basement membrane, and back of the membrane is the capillary plexus of blood vessels.

Now, the Great Chemist so ordained that these epithelial cells should not absorb as food the same material from the serum which exudes through the walls of the capillaries, but should select some waste which, after it had served as its food, should become urine.

The Great Physiologist did not build them so that they would absorb urine. He arranged for them to love just such food as would become urine after it had served as food for them. Their bowels should move, but it would be urine.

Look at the liver. There is your same epithelial cells. Those epithelial cells made, apparently just like all other epithelial cells. They thirst for nourishment. They, too, absorb the wealth of waste which exudes from the capillaries. Under the touch of the Great Physiologist they select from the mixed stream just such food as will be bile, or glycogen, or urea, when passed from their bowels as waste. Thus bile is secreted.

Thus, the epithelial cells of the sudoriferous glands absorb from the blood vessels a certain waste for food which, when passed out, will be called perspiration. Their bowels move, and we call it perspiration.

Each one of the glands is perpetually taking impurities out of the blood stream. Each gland is feeding upon some product soon to become deleterious if not removed by the appetite of these cells which make up the great glands of the body.

See the mighty economy of the Great Physiologist. He feeds the scavenger cells of the large glands upon the waste products of wornout particles, or waste, of cells or glands. Look at the evidences of God in the anatomy of man.

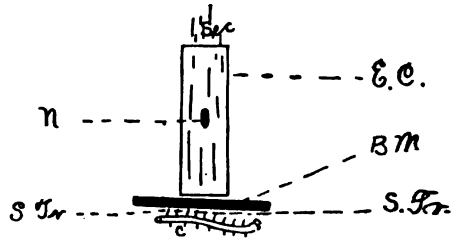


FIG. 5.

Look again. See the food we consume. Whence does it go? It is made to nourish every muscle cell, every nerve cell, bone cell, brain cell, blood cell, and every connective tissue cell. The serum of the blood is serum albumin. It is the most highly elaborated food.

The muscle cells are minute animals. They hunger. They crave and absorb just such food from the blood serum as they need for food. They absorb this liquid food and assimilate it unto themselves. When thrown off as waste, liquid waste, the ever-present lymphatic cells find in that waste a bounteous food for their hungry mouths. Thus they absorb and carry it away. See the touch of Mighty Fingers everywhere in the anatomy of man. The hungry lymphatic cells feast upon the waste of all cells of the body.

Thus, they absorb the waste by eating and carrying it away. Hunger causes the lymphatic cells to take up the waste products from all over the system.

Summary.—1. The unit of gland substance is at least one epithelial cell. It must rest upon a section of basement membrane, except in the liver. And behind it is a plexus of capillary blood vessels.

2. All gland cells hunger and feed upon some waste product from the tissues. Thus, all glands are for the purpose of absorbing waste from the blood and tissues. They absorb it as their food. We call their waste secretion.

3. The food we eat is to nourish the tissues as muscles, nerves, connective tissues, and other tissues and bone. But the glands feed upon waste.

4. The lymphatics absorb waste because they are built to eat such material as food. Thus you see the secret of their absorption. They feed upon all the waste from all wornout cells of the system and pass it into their sewer system.

[Written for the MEDICAL BRIEF.]

Care of Infants.

BY E. J. WUNDERLICH, M. D.,

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The three vital elements in the care of the infant are proper feeding, clothing, and climatic surroundings.

If the child is nursed by its mother the feeding question is at once disposed of in almost every case satisfactorily. In a few rare cases, however, the mother's milk will be found to disagree, and a substitute will be necessary. In two or three cases in my practice I have found a change to cow's milk absolutely necessary, but after a cessation of the symptoms, and complete restoration to health, the infant was returned to the breast, and no further ill-effects followed. These cases are, fortunately, exceptional.

Where cow's milk is used from the beginning, the first requisite is to find a pure milk. If this milk is properly taken care of, diluted, and fed to the infant at proper intervals, and in suitable amount, it proves, in nearly all cases, an ideal infant food. The modern percentage method is not always available among busy mothers, and where no nurse is at hand. For their benefit, I will say that a proportion (roughly speaking) of three parts water to one of milk is a suitable proportion for the young infant; sterilized when possible. The bottles and jars in which the milk is delivered must receive the most careful attention; this applies also to the nursing bottle. None of these should be rinsed with chemicals—a common and pernicious practice. I do not advise the elaborate tubing of bottles, the black rubber nipple is all that is necessary.

The infant, whether breast or bottle-fed, should not be given food oftener than once in two hours during the day, and should not be fed at night, between eleven or twelve (or earlier) and six A. M. The tendency to overfeed—always common—is particularly harmful at night. If the baby cries during the night it is probably from thirst; this should be relieved by small sips of water.

Clothing.—The mother, in order to prevent the baby from "taking cold," not only dresses it warmly, but often envelopes it in a blanket until the child is completely overwhelmed, if not half suffocated. The room should not be warmer than 70° F., and the clothing should be light and loosely fastened.

The infant must have light and air, the bed should be in the center of the room, rather than in a corner.

During a heated season I have saved the lives of many infants by having them placed in a hammock in the center of the room. This arrangement permitted the air to circulate all around them; while they had sweltered lying in a cradle or bed, they were comfortable lying in the hammock. When a hammock was not available, one was constructed by means of a sheet, which answered the same purpose, viz., free circulation of air with least possible heat.

Finally, each infant has his idiosyncracies, and these must compel attention. One infant will thrive on the food that is poison to another, and *vice versa*.

Starchy foods should not be fed before the fifth month, and the all too common

practice of feeding the baby tid-bits from the table is both condemned and absolutely forbidden.

The baby should be kept in the open air at least two hours every day. Where this is not possible, on account of the inclemency of the weather, the baby should be wheeled about in a large room where the windows have been raised.

1919 West Chestnut Street.

[Written for the MEDICAL BRIEF.]

Umbilical Hernia.

BY ALFRED DE ROULET, B. S., M. D.,

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Owing to the marked differences in the anatomical and pathological features, as well as in the treatment applicable to the different forms of umbilical hernia, a brief consideration of the factors leading to the development, the conditions present and the probable outcome of the trouble would seem desirable.

Anatomically, umbilical hernia may be divided into three classes, as follows:

1. Congenital hernia into the cavity of the cord.
2. Infantile umbilical hernia.
3. Adult umbilical hernia.

Adult umbilical hernia may be also divided into two varieties:

a. Adult umbilical hernia without separation of the rectus muscles.

b. Adult umbilical hernia with separation of the rectus muscles.

Congenital hernia into the cavity of the cord is often called congenital umbilical hernia, but this is incorrect, as at birth there is no umbilicus, and the cavity of the cord is but the persistence of a well-recognized embryonal condition. In a hernia of this character, the attachment of the cord to the abdominal wall is broad and funnel-shaped, and the protruding viscera lie in the cavity, but without a hernial sac, there being no protrusion of the peritoneum through the hernial ring. A number of cases are recorded where the presence of the hernia not being recognized, portions of the intestines have been tied off with the cord.

The dividing line between infantile and adult umbilical hernia is placed arbitrarily at puberty, consequently an infantile umbilical hernia may develop at any time from early infancy to the fifteenth year, and is due, almost invariably, to weakness of the umbilical cicatrix. As regards the relative frequency of its occurrence, sixty-five per cent of all hernias, developing in girls, and twenty per cent of all hernias developing in boys under fifteen years of age, are of the umbilical variety.

In infantile umbilical hernia there is no separation of the rectus muscles, and the tendency is toward spontaneous healing. In most cases a simple abdominal bandage is all the treatment necessary, though in some cases the employment of a truss is advisable.

Adult umbilical hernias may develop at any time after the fifteenth year, and occur much more frequently in women than in men. Statistics in regard to its comparative frequence are not as complete as could be desired, but from those at hand it appears that approximately two per cent of all hernias occurring in adult males are umbilical, while between twenty and thirty per cent of all hernias developing in women under forty are of this variety, while in women over forty, umbilical hernias outnumber all other kinds. Umbilical hernias do not often develop in small or slender women, who have never borne children, but are quite common in multiparous women of large frame, and with a tendency toward obesity. Any condition which tends to increase the intra-abdominal pressure, such as pregnancy, the growth of tumors, ascites, and the accumulation of excessive fatty deposits in the mesentery, as well as conditions which cause a weakening or relaxation of the abdominal muscles, as loss of contractile power from lack of exercise, atrophy from the injudicious use of corsets, and the appearance of large quantities of adipose tissue in the abdominal walls act as predisposing causes. Probably the most important factor, however, is the distention and relaxation of the abdominal walls incident to repeated pregnancies.

The extent of the hernial protrusion varies greatly in different cases. (Figs. 1 and 2.) Where the umbilical ring is

small, and there is no separation of the rectus muscles, the hernia may be no larger than a hen's egg. Such cases do not give rise to any particular symptoms,

FIG. 1. Umbilical Hernia.

although the hernia shows a decided tendency to progressively increase in size. In the larger hernias, the umbilical ring may be from two to three inches across, and the protrusion as large as a man's head.

The hernial contents usually consist of small intestine and omentum, although the transverse colon is frequently present. The covering of an umbilical hernia consists essentially of skin and peritoneum, with sometimes a more or less attenuated layer of connective tissue. Ordinarily this covering is very thin, and adhesions between the hernial sac and the contents the rule.

As regards symptoms, while a small, reducible umbilical hernia is attended by few or no symptoms, there is no form of rupture which gives rise to so many unpleasant and distressing symptoms as does a large umbilical hernia. On account of its exposed position, it is in danger of frequent injury. Its walls being thin, and ordinarily poorly nourished, frequently ulcerate. As a rule, the hernia is irreducible, prone to inflammations and localized peritonitis. It is painful, often distended, and generally attended by marked gastric and intestinal disturbances. Constipation, or constipation alternating with diarrhea, is a frequent symptom. In many cases there is a history of recurrent attacks of intestinal obstruction which have usually been relieved spontaneously, or at least without surgical interference.

Strangulation occurs somewhat less frequently in the umbilical than in either the femoral or the inguinal varieties. According to Berger, in one hundred strangulated hernias, fifty are inguinal, forty-four femoral, and six umbilical. Practically all large umbilical hernias are irreducible, as a result of omental adhesions. The prognosis is variable. In the male, and in some few selected cases in women, where the hernia is small, and the abdominal walls firm, it is possible to retain the hernia with a suitable truss, and in such cases the prognosis without oper-

FIG. 2. Large Umbilical Hernia.

ation is good, and an operation is not absolutely necessary, although in my opinion it is generally advisable.

As a rule, however, in women the prognosis without operation is not good, owing to the pronounced tendency of even very small hernias to increase in size, the increase being attended by the developments of more or less distressing

symptoms and complications. Where the abdominal walls are relaxed and flaccid, it is impossible to apply a truss with any prospect of benefiting the patient. An abdominal bandage or binder does not afford a sufficient degree of support to enable the patient to be about with any degree of comfort or safety. Should strangulation occur, the prognosis is very grave, more so than in either the inguinal or femoral varieties, the mortality rates being given by different authors about as follows: umbilical hernia, sixty per cent; inguinal hernia, twenty-five per cent; femoral hernia, thirty-five per cent. In operations for the radical cure of non-strangulated umbilical hernia, the mortality rate as reported in the text-books varies from two to ten per cent, varying with the size of the hernia, the extent of the adhesions, and the complications present. With some of the more recent operations, however, the mortality rates show a marked diminution.

Concerning the frequency of recurrence of the hernia after operation, Berger asserts that thirty per cent of large, and from fifteen to twenty per cent of medium sized umbilical hernias recur, but with small umbilical hernias, recurrences after operation are comparatively rare. Berger's statistics are somewhat more favorable than those warranted by the experience of most American surgeons. In a series of twenty-one cases reported from the Hospital for Ruptured and Crippled in New York, twelve recurrences are recorded. It should be borne in mind, however, that these statistics are based upon the various operations such as are described in the current surgical text-books, and with results such as these figures would indicate, it is not surprising that many surgeons hesitate to operate for

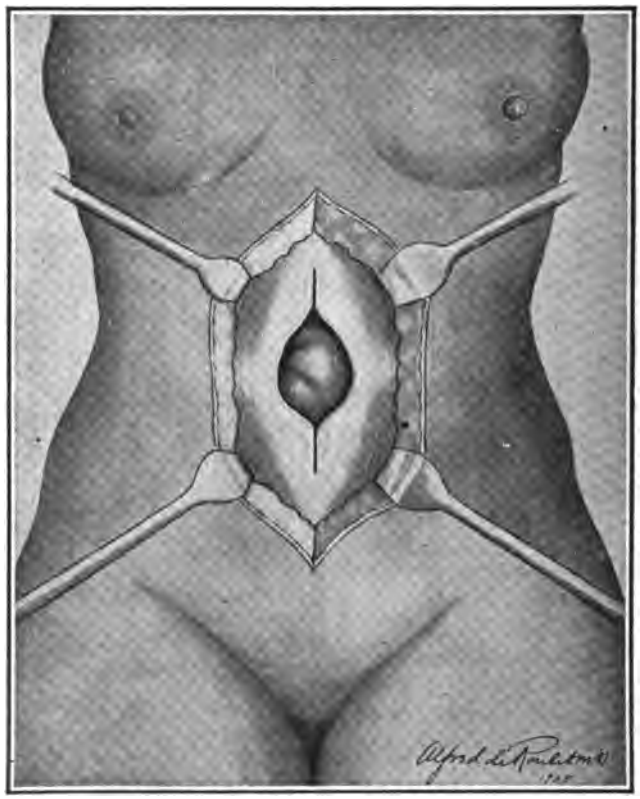

FIG. 3. Umbilical hernia after the sac has been removed and the incision has been extended along the linea alba.

umbilical hernia, and that many have even taught that the condition was incurable.

With the recently devised operations for overlapping the abdominal tissues, umbilical hernia may be radically treated

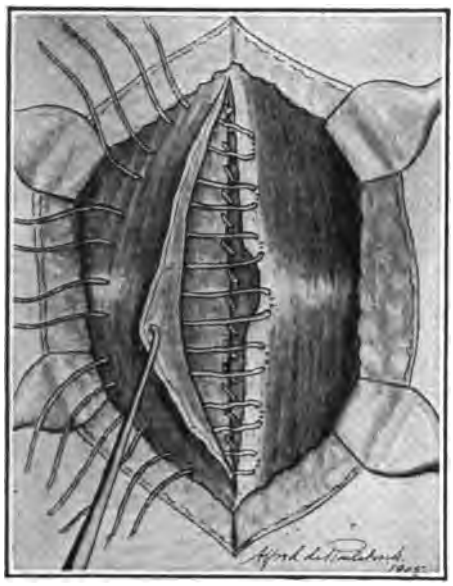

FIG. 4. Edges of peritoneum united and mattress sutures inserted.

with safety to the patient, and with the expectation of results scarcely less favorable than those following a properly performed operation for inguinal hernia.

Before considering operative measures, however, it is well to call to mind the anatomical conditions which in all probability will be encountered:

1. The tissues about the umbilicus are greatly attenuated, making it very difficult to obtain sufficient tissue for firm approximation.

2. There is a decided separation of the rectus muscles, the extent of the separation being slightly greater than the width of the hernial ring. This separation of the muscles necessarily involves a widening and thinning of linea alba which is most marked at the level of the umbilicus.

3. The length of the linea alba is perceptibly increased.

Owing to the difficulties incident to the effective closure of the hernial orifice, a great variety of operations have been suggested and practiced.

The method of linear approximation of the lateral margins is probably the oldest, and, with its various modifications, is probably the most popular, as well as the least effective. With this method, as first practiced, the sac was removed, and the wound closed with a single layer of through and through sutures. The sutures being limited to the edges of the hernial ring, and no effort being made to take up the slack in the distended linea alba, the tension on the stitches was excessive, and failure of the operation the usual result. The next development was the splitting of the sheaths of the rectus muscles, and the suturing of the tissues in layers, the object being to obtain broader surfaces for approximation.

Lucas Championniere devised a method for approximating the anterior surfaces of the rectus muscles and their aponeuroses, using for this purpose a modification of the Czerny-Lembert intestinal suture. In this method the width of the apposing surfaces varied with the degree of

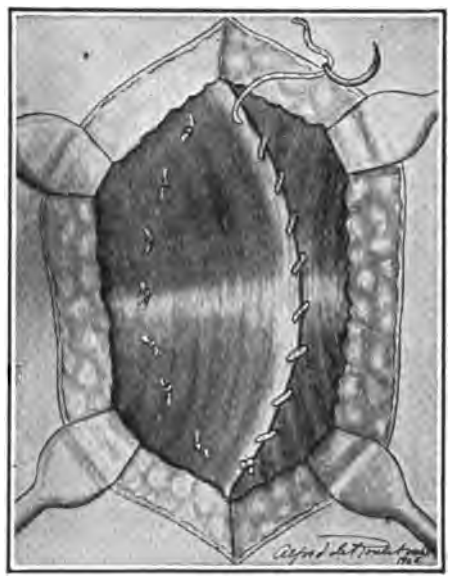

FIG. 5. Mattress sutures tied and edge of right rectus stitched to anterior surface of left rectus.

tension or relaxation of the abdominal walls.

Several operators have combined with one or the other of these methods the introduction of a silver wire filigree, intended to strengthen or support the tis-

sues at the site of the operation. Inasmuch as the presence of this device can only result in an ultimate atrophy of the tissues involved, by interference with circulation as well as direct pressure, its employment can not be too strongly condemned.

The objections to the various operations to secure linear approximation of the lateral margins of the wound are numerous. The tissues are so attenuated that it is impossible to secure broad enough surfaces for firm union; it is often difficult to secure accurate approximation of the tissues, and in many cases it is exceedingly difficult to overcome the tension of the abdominal walls, and a multitude of stitches are necessary. The superimposing of suture lines is not desirable. The permanent results often leave much to be desired, and recurrences are frequent.

To overcome these difficulties, Dauriac devised an operation where the umbilical hiatus is bridged by interlacing bands from the inner borders of the rectus muscles. Theoretically this is a very nice operation; practically it presents no advantages over the older operations, the technique is more difficult, and the possibilities for complications more numerous. The same may be said of the operations involving the employment of aponeurotic flaps reflected from the anterior surfaces of the rectus muscles.

Blake has devised an operation which eliminates many of the drawbacks of the older operations, and in cases where there exists a distinct relaxation and flaccidity of the abdominal wall, gives excellent results. In this operation, after excision of the hernial sac, and liberation of the hernial contents, the incision is extended along the linea alba above and below the hernial opening. (Fig. 3.) The peritoneum is then freed from the edges of the wounds, the separation being from a half an inch to an inch on the left side, and from an inch and a half to two inches on

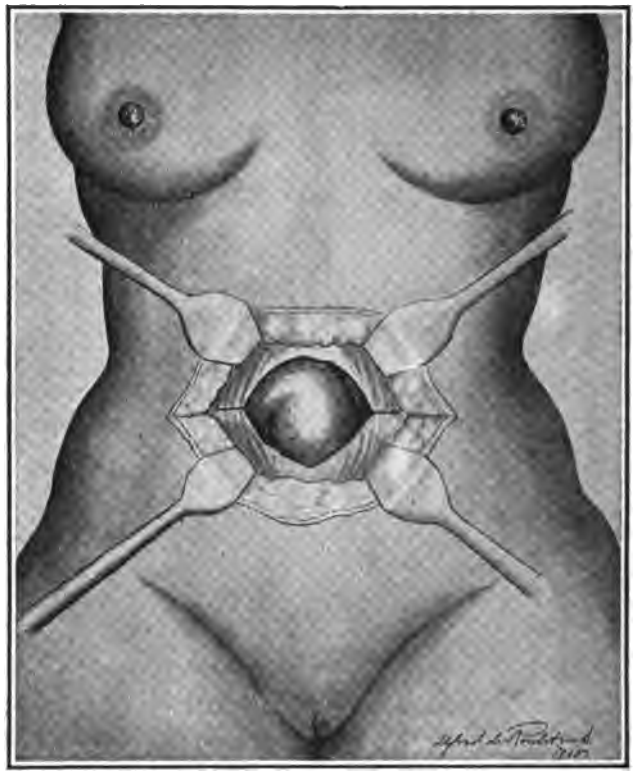

FIG. 6. Umbilical hernia after removal of sac. Transverse incision.

the right side. The edges of the peritoneum are then united in the median line with a running catgut suture. The anterior surface of left half of the linea alba and the sheath of the rectus muscle is carefully freed from fat, while the posterior surface of the right half of the linea alba and rectus sheath is prepared in the same manner. Mattress sutures are now passed through the right rectus muscle and its sheath, the loop grasping the free margin of the left flap about a quarter of an inch from the edge, as shown in Fig. 4.

In this manner, the anterior surface of the left rectus is brought in contact with the posterior surface of the right rectus and sheath. The free edge of the right rectus is stitched to the anterior surface of the left rectus with a running catgut suture. (Fig. 5.) In this way a total overlapping of from one and a half to two inches may be obtained without undue tension. The skin is closed with a running catgut suture. The disadvantage of this operation is that it is limited to the class of cases presenting a decided relaxation of the abdominal walls. In cases where there is considerable lateral tension, while it may be used with the expectation of better results than accompany the older methods, yet it does not give results as good as could be desired.

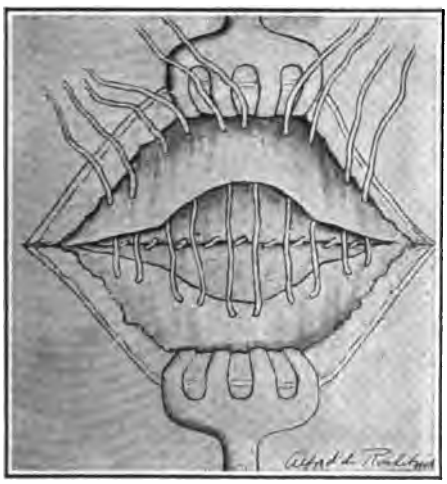

FIG. 7. Edges of peritoneum united and mattress sutures inserted in aponeurotic flaps.

In the class of cases where it is especially indicated, its advantages are numerous. Among the more important ones may be mentioned:

1. The broad surfaces of union minimize possibility of future separation.

2. The abdominal walls are doubled at the hernial site.

3. The weakened and attenuated linea alba is eradicated, the relaxation of the abdominal muscles is diminished, and the size of the abdomen reduced. This operation is well adapted to the treatment of post-operative hernia along the linea alba.

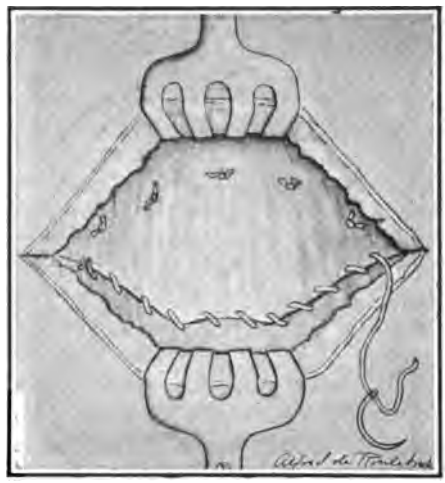

FIG. 8. Mattress sutures tied and free margin of upper flap stitched to anterior surface of lower flap.

The technique of the Mayo operation marks a radical departure from all surgical tradition in the treatment of umbilical hernia, and it is based on the fact that in all hernias of this character there is present a marked elongation of the linea alba entirely independent of the presence or absence of lateral tension. In this operation the hernial sac is removed, and the contents liberated in the usual manner, after which the anterior surface of the linea alba and the rectus sheaths are cleared from two to three inches in all directions from the neck of the sac. An incision is now carried laterally through the aponeurosis and peritoneum on either side of the hernial opening, as shown in Fig. 6. The peritoneum is next freed from the edges of the wound, the separation being from an inch to an inch and one-half on the lower, and from an inch and a half to two inches on the

upper flap. The edges of the peritoneum are united with a continuous catgut suture.

Beginning at a point two inches above the margin of the upper flap, mattress sutures are introduced, the loop grasping the free margin of the lower flap (Fig. 7). As these sutures are tightened, the lower flap slides into the pocket already prepared between the peritoneum and the aponeurosis of the upper flap. The free edge of the upper flap is stitched to the anterior surface of the lower flap with a running catgut suture (Fig. 8), while the skin is closed in the usual manner.

This operation presents all the advantages which characterize the Blake operation, and, in addition, may be employed in practically all cases of umbilical hernia.

1013 Venetian Building.

[Written for the MEDICAL BRIEF.]

The Radio-Active Bath.

BY SAMUEL G. TRACY, B. SC., M. D.,
New York City.

Physicians who have made a study of many foreign springs and bathing establishments, hold that drinking and bathing in these waters at the springs is far more effective in producing a cure than the use of same, made artificially, either taken internally or bathed in, away from the springs. Notwithstanding the fact that a chemist makes an accurate analysis of a natural spring, and reproduces the same artificially, so that it has the same proportion of water, salts, gas, etc., there seems to be something lacking in its remedial virtue.

The explanation of this is, as has been demonstrated, that there is radium and radio-activity in the natural springs which is lost when transported to a distance. The radio-activity is, no doubt, due to the presence of radium in the earth, in close proximity to these springs. The radium and radio-activity produces a healing effect on those who either drink or bathe in these waters.

This has been shown to be the case in the celebrated springs at Bath, England. Of these springs the Hon. R. J. Strutt said: "I have found that the waters contain radium in appreciable quantities."

In our own country Professors Burnstead and Wheeler, of Yale, in experimenting with the springs around New Milford, Conn., found evidences of radium in them. Professor Larkin, a noted chemist of St. Louis, believes that the remedial value of the waters used for baths at Hot Springs, Ark., is due to the radio-activity contained in these waters.

From personal investigations the author is convinced that Professor Strutt and Dr. Larkin are correct in attributing the remedial virtues of certain springs to the radio-activity contained in their waters. Over two years ago I showed, in an article published in the *New York Medical Journal*,* that a normal salt solution, when exposed to pure radium bromide, would become radio-active in twenty-four hours, and retain its activity for several weeks. This solution I called "Radium Fluid," and I have suggested its use internally and externally for a variety of ailments. Having in mind the great benefits obtained in the treatment of rheumatism and gout, by bathing at some of the foreign baths, was probably due to the radio-activity, as well as the chemical constituents of the waters, I was convinced that such baths could be duplicated artificially, and invalids suffering from rheumatism, gout, heart disease, and nervous diseases, who were in the habit of going to a European bath-cure each season, could obtain similarly good results in this city by the use of a radio-active and effervescent bath.

By further experimentation I found that large quantities of water could be made radio-active, not only by the use of my large specimen of pure radium, but from the radio-active emanations obtained from pitchblende and thorium. As thorium is so much cheaper than radium, it is possible to make a bath radio-active without putting a prohibitive price on it.

In my researches last year, which resulted in my obtaining a radio-active salt solution, I found the remedial value of such a solution very much increased by the use of a fluorescent material. The same is true when it is added to a radio-active bath.

**New York and Philadelphia Medical Journal*, February 13th, 1904.

Effects of the Bath on the System.—The effects of these baths are to slow the excited heart, and to increase the force of each beat. For this reason it is useful in many cardiac diseases. The radio-active bath is a general tonic and stimulant to the whole system. It improves the general nutrition and helps in the elimination of the products of combustion. In other words, it assists nature to get rid of uric acid, and other effete material of the system.

This explains its great value in rheumatism and gout. In these cases the general circulation of the blood is stimulated, the congestion around the joints is relieved, and the inflammatory rheumatic accumulations are absorbed and eliminated from the system.

Another important effect is its influence on the blood, by increasing its quality and quantity. In some cases it increases the number of red-blood cells from ten to fifteen per cent, and at the same time acts as a sedative to the nervous system.

In nervous diseases the radio-active fluorescent bath is remedial by its reflex action on the nerve terminals, producing a tonic and sedative effect on the general nervous system. A few of these baths literally transform some people who are depressed and devoid of physical and mental vigor. A course of treatment of the baths produces a continuous renewal of the nervous energy. The powerful and sustained action of this bath makes it one of the most active and thorough agents in the treatment of nervous diseases.

Description of the Bath.—The water, the salts (chloride of sodium and chloride of calcium) and the carbonic gas are placed in a large cylinder, and are here made radio-active and fluorescent and effervescent.

In order that the greatest state of uniformity and activity may be obtained, the solution in the cylinder is thoroughly mixed by paddles revolved by an electric motor.

The bath is now ready for use in the tub, and it can be taken at any temperature, from 75° to 110° F. However, the average temperature for taking these baths is usually between 90° and 96° F., except in uncomplicated rheumatism, when the temperature may be from 100° to 105° F.

When the patient enters the bath he is covered with a fluid, changing from a light green to a pale yellow. After a few minutes of immersion, his body is covered with millions of bubbles, and he experiences a sensation as though a mild electric current were passing through him.

After being in this effervescent radio-active fluorescent bath for ten or twenty minutes, he is thoroughly dried with hot towels, and then rests for a time, after which he gets massage, as may be prescribed by his physician.

When the patient is through with his bath he feels refreshed and invigorated, and after a series of baths he notices an improvement in his general condition, and in the special ailment for which he took the baths.

240 West One Hundred and Second Street.

[Written for the MEDICAL BRIEF.]

The Treatment of Diabetes.

BY MILTON P. CREEL, M. D.,

Ex-Vice-President Kentucky State Medical Society; Surgeon Illinois Central Railway; President Board of Health Muhlenburg County and Referee for the State Board of Health for Muhlenburg County, Etc. Central City, Ky.

The possibility of conducting diabetes to a successful issue is dependent upon several factors.

These may briefly be said to be confidence, obedience and patience on the part of the patient, and the exhibition of proper remedies, and the giving of correct instructions on the part of the physician. A strict adherence to intelligent and tried methods, alone, promise results that are worth the effort, and it is the plain duty of the physician to bring these facts clearly to the mind of his patient when treatment is about to be instituted. It has been found that some patients, on being told that the treatment is of an extended duration, and hedged about with painful deprivations, will refuse to take it up. It is far better for the physician to know this at the beginning than later on to have his patient withdraw, and, as is frequently the case, suffer misrepresentations.

It is absolutely necessary that a diabetic patient adhere to a proper dietary. A general diet will intensify all the elements of the case. Hare says, "As diabetes is a condition in which the body is unable to properly utilize carbohydrates and their educts, it is manifest at once that an excess of carbohydrates must be forbidden." I give here a list of foods which, by agreement of the best observers, can be employed by the diabetic patient without detriment. At the end of the catalogue is appended a list of prohibited articles of diet.

Soups or broths of beef, chicken, mutton, veal, oysters, clams, terrapin or turtle (not thickened with any farinaceous substances), beef tea. Shell fish, and all kinds of fish, fresh, salted, dried, pickled, or otherwise served. (No dressing containing flour). Eggs, in any way acceptable.

Fat beef, mutton, ham or bacon, poultry, sweetbreads, calf's head, sausage, kidneys, pig's feet, tongue, tripe, game (all cooked free of flour, potatoes, bread or crackers).

Gluten porridge, gluten bread, gluten gems, gluten biscuits, gluten tea wafers, gluten cakes, almond bread or cakes, bran bread or cakes, string beans, spinach, beet tops, chickory, kale, lettuce (plain or dressed with oil and vinegar), cucumbers, onions, tomatoes, mushrooms, asparagus, oyster plant, celery, dandelions, cresses, radishes, pickles, olives.

Custards, jellies, creams (without any sugar), walnuts, almonds, filberts, Brazil nuts, cocoanuts, pecans. Tea or coffee (without any sugar), pure water.

The following foods are to be avoided by diabetic patients: Liver, sugars, sweets or starches of any kind, wheaten bread or biscuits, corn bread, oatmeal, barley, rice, rye bread, arrowroot, sago, macaroni, tapioca, vermicelli, potatoes, parsnips, beets, turnips, peas, carrots, beans, melons, fruits, puddings, pastry, pies, ices, honey, jams, sweet or sparkling wines, cordials, cider, porter, lager, chestnuts, peanuts.

The patient who perseveres in his adherence to the diet, and who follows instructions regarding drugs, alone, will come out of the case unscathed. Diet or drugs alone will not accomplish the purposes of treatment. This is a conclusion which I have reached after twenty years of study and observation of diabetes.

Of drugs I have found no agents to yield me satisfactory results but opium and cod-liver oil. These agents have the sanction of able authorities and a consultation of the leading writers will show that nearly all mention opium as the best of remedies. Charteris says: "Of medicines which are recommended, only one or two require mention. Opium and its alkaloids —codeine being best—are frequently prescribed."

Hare, in his work on the practice of medicine, says: "Without doubt opium is the most valuable drug in the treatment of diabetes mellitus in the majority of cases, for it exercises a more potent influence in diminishing the elimination of sugar in the urine than any other drug. Its alkaloids, morphine and codeine, are also exceedingly valuable, and may be employed when they prove capable of controlling the glycosuria, and when the opium increases the constipation, but neither of these alkaloids is equal to the crude drug."

I give, usually, the powdered opium, in capsule or pill. I begin with a dose of one grain at bed-time. I examine the urine every other day, and if the quantity of sugar is not steadily disappearing, I increase the dose. I give first a grain after noon lunch and at bed-time. If necessary, I give the remedy after each meal and at bed-time.

I have found it seldom necessary to give more than four grains daily. When the sugar is lessened I reduce the opium. This principle must be followed, and I have found it rare that opium addiction will be established. The opium has often been given for a year and then withdrawn without the patient suffering as do opium habitues. I begin the administration of opium as soon as the patient comes under treatment, and persevere in its employment until there has been no appreciable sugar in the urine for six months. Synchronously with the exhibition of opium I begin the administration of cod-liver oil. This drug in the hands of able observers has been found of great value in the treatment of diabetes. Of the remedy, Strumpell says: "Cod-liver oil is also frequently employed, and it is even

regarded by many physicians as having a specific effect."

I could quote other authorities who advocate cod-liver oil in the treatment of diabetes.

The remedy increases the resisting powers and is a food of great value. But its action is not dependent, I think, upon the food virtues of the remedy.

Other pure foods, capable of increasing the resisting powers, will not favorably influence the course of the disease. This fact I have observed. The remedy has an action whose *modus operandi* is not understood, but that these patients steadily improve under cod-liver oil is a fact which can not be denied by any physician who has studied the disease clearly or carefully. I have found that neither opium nor cod-liver oil, alone, will bring favorable results so quickly.

The conjoint use of the agents have brought me the most favorable results in tractable patients, in a percentage of cases that is sufficient to establish its worth, to my mind.

The administration of opium entails, in most patients, an intense constipation. The diet too often adds to the intensity of the constipation. To counteract this, recourse can be had to salines and laxatives. I have found it the best plan to give these patients for a while aloin, belladonna and strychnine pills, and before they have lost their effectiveness exhibit one of the mineral waters, or some of the saline cathartics. The point is not to allow drugs to wear out, as it were. Still, we must in this matter of unloading the bowel, exercise a degree of conservatism that is wise. It is never wise to resort to drugs until that is a necessity. Often, we will find that nature can be depended upon to unload the bowels.

A very important matter which, too, often makes success possible, is for these patients to spend their winters in Florida or some place where the temperature never reaches low readings. Low temperature diminishes the resisting powers of these patients; besides, it renders it practically impossible for them to spend a large part of the time in the open air. In every instance I advise all patients to go to a climate which in winter is so mild that outdoor life is possible.

[Written for the MEDICAL BRIEF.]

Puerperal Eclampsia.

BY T. J. WINDER, M. D.,
Cottageville, Ky.

Puerperal eclampsia, or convulsions, is a serious complication of pregnancy that should rarely or never occur. They are uremic and are due to a diseased condition of the kidneys. This condition is nearly always easily corrected, if taken in time. The condition of pregnancy impairs digestion, absorption and assimilation are impaired, hence there is more work thrown on the kidneys, which over-stimulates, irritates, and congests them.

This over-stimulation lessens their secretive and eliminative actions; urea accumulates and the convulsions set in as a result. Every physician doing obstetric work should keep a close watch on all of his patients after the sixth month of pregnancy. After this time any swelling of the lower extremities of much notice and, especially if accompanied by a puffiness about the eyes, should excite attention to the kidneys. To those cases I give the well-known remedy of santal and saw palmetto, teaspoonful every three hours, in plenty of water, combined with potassium acetate and spirits of etheris nitrosi. A tonic to the genito-urinary system should be given continuously for a month previous to confinement.

The bowels should be kept soluble, clean and aseptic. If called to see a patient during an attack of eclampsia, give morph. sulph., one-quarter grain, with atropia sulph., one one-hundred and fiftieth grain, to relieve convulsions. If pulse is full and strong, with increased action, give ten to fifteen drops tincture verat. viride. The above treatment should be given hypodermically. After the convulsions have ceased, give pilocarpine to free diaphoresis, after which correct the kidney trouble, and the patient will make a good recovery.

Enclosed find one dollar for which send the MEDICAL BRIEF for one year, beginning with January number. I like the BRIEF.—D. B. WYATT, M. D., Fond du Lac, Wis.

[Written for the MEDICAL BRIEF.]

Chloroform Anesthesia.

BY VERE V. HUNT, LL. D., M. D.,

Late Division Surgeon St. Louis & San Francisco Railroad
Blackwell, Okla.

"The giving of the anesthetic is really the most serious part of every surgical operation." How complacently have we heard our preceptor state this fact when we were students, and how complacently have we many times since repeated the assertion. Yet, how recklessly do we use, or permit the use of, this dangerous adjunct of surgery? I shall apply these remarks to chloroform anesthesia exclusively, because we know that, on the same principle that so often guides the employment of the obstetrical forceps, we lean to its use as more rapid and less burdensome to employ than any other method.

The exact physiology of chloroform anesthesia is still a matter of discussion; all observers, however, agree that it always causes a marked fall in the blood pressure, with slowing of the heart beats, and slowing and finally cessation of the respiration, after a sufficiently large dose has been administered. This fall in blood pressure has been variously explained as due either to vasomotor paralysis, produced centrally, or to weakening of the heart's action. Probably both factors play a part in producing it, but the latter is the main one, and the most to be feared, the drug acting as a direct poison to the heart muscle. Experiments upon the lower animals show conclusively that where chloroform is pushed to a fatal issue in them, death ensues through paralysis of the respiratory center. On the other hand, in a large majority of fatal cases in human beings reported from time to time the heart has stopped first, and in many instances respiratory efforts have been noted for some minutes after it had ceased to beat.

The best view to take of the case at the present writing seems to be that chloroform, when given in poisonous doses, usually kills by paralyzing the respiratory center, but that it has a direct toxic effect upon the heart muscle itself and, under certain conditions not at present understood, this action is sufficiently strong to cause death before a large enough dose has been absorbed to destroy life in the usual way. In these latter cases the heart is found, by *post-mortem*, dilated, and its cavities filled with fluid blood. Failure of the heart, when occurring in this way, may be gradual, but oftener it stops suddenly, without warning, and resists every attempt at resuscitation. General fatty degeneration has been noted after long-continued chloroform administration.

The manner of giving the chloroform is certainly of great importance, and from the beginning the explanation of accidents has been sought in the method of administration. As a result, two different methods have been devised, the method of drops and that of massive doses. From the point of view of statistics, deaths are about equal by these two methods. The explanation of the mortality does not lie in the mode of administration, it rests with the chloroform itself.

Chloroform is a marvelous anesthetic agent, but it is dangerous. It kills, in spite of the individual conditions of the patients, the purity or impurity of the drug, and the skill or ignorance of the anesthetist, and we know not why or wherefore. It is more dangerous in patients with cardiac disease, for if healthy persons, with no appreciable lesion, succumb, it should *a fortiori* be more dangerous in affections of the heart, aorta, etc.

During the past ten years deaths from anesthetics in England and Wales have just doubled, which is clearly out of proportion to the increased use. Neither physiologic experiments, nor statistical commissions, have hitherto been of the least avail in aiding in the search for the best anesthetic, or the best method of using it. As to whether chloroform or ether is the more dangerous, physiologists have long been aware that in animals the former is infinitely more dangerous, and hence they use ether. The statisticians assign to chloroform a danger rate of 0.582 per cent, and to ether one of 0.065 per cent, so chloroform is nine times more fatal than ether.

In most cases the patient does not suddenly collapse. The patient has been in

a really dangerous way for some time before, and the real cause of the collapse is the inability of the anesthetist to recognize the early symptoms of danger and avert it in time. A great secret is always to keep the patient just on the point of coming out. Another condition where there is great danger is the inability of the anesthetist to recognize whether the patient is breathing fully and freely, or only getting a small amount of air into his lungs, and that filled with chloroform. It is far better to use the tongue forceps than to lose valuable time fumbling around the jaw.

It is not wise to cover the eyes or bind the arms. The former takes away from the anesthetizer the chief signals as to the patient's condition, and the latter prevents instantaneous artificial respiration. The time, above all others, for watchfulness, is the moment or two at the end of the stage of excitement when, with rigid muscles and blue skin, the exhausted patient passes into complete narcosis. These critical moments are nearly always characterized by deep breathing, and the fatal dose of anesthetic is most often inhaled at this time. Chloroform should at this time either be entirely withdrawn, or given most cautiously, in very small amounts, diluted with an immense amount of air. Yet it is generally at this most critical moment that the anesthetizer, rejoicing in what he deems the conclusion of a perhaps tedious task, takes his eyes off the patient and tells the waiting surgeon—who should himself be paying sufficient attention to the proceedings not to require to be told, "Go ahead! I've got him under." Too often has such action got the patient under—the sod. Another dangerous time in the giving of chloroform is the struggling period. The great dangers of chloroform are: (1) Absolute overdosing up to the poisoning point, (2) omitting to allow the patient to constantly and freely get an abundance of air into his lungs, and (3) violent repression during the stage of excitement, combined with continued dosing with chloroform.

The following rules for anesthetist and operator should never be deviated from by either:

1. The anesthetist should punctually keep his appointment.

2. It is his duty, if he has seen the patient or friend before, to give distinct directions as to the preparation of the patient.

3. If possible, the anesthetic should be given on the operating table.

4. The administration should not be begun until the surgeon has everything in readiness.

5. Having begun, his whole attention is required for and must be given to his own work.

6. He must keep the patient anesthetized until the surgeon is quite sure his work is nearly over.

7. He must remain until consciousness has returned and all danger from the anesthetic is over.

(*a*) The operator should be punctual.

(*b*) He may have to give directions as to the preparation of the patient for the anesthetic.

(*c*) He should have everything ready before the administration of chloroform is begun.

(*d*) He should complete the operation as quickly as possible, and never tell the anesthetist he has finished until this is so.

The average subject passes tranquilly from wakefulness to anesthesia when the anesthetic is properly administered. Highly-strung, nervous patients, or muscular alcoholics, may exhibit various phenomena, as crying, shouting, gesticulating, and moaning. If there be a muscular spasm the anesthetist must proceed cautiously; more air and less vapor are generally demanded. It is among these vigorous patients that many fatalities have occurred early in the administration. Attention should all the time be given by the anesthetist to the condition of the patient, and he should never hesitate to withdraw the inhaler whenever ominous symptoms manifest themselves. It is claimed that it enhances the danger to operate under light chloroform anesthesia, and a proper level of analgesia should be maintained; but it is better to err on the side toward the basis of safety than on the other side of the danger line. The inhalation must proceed carefully, but it may be increasingly continuous until a satisfactory degree of anesthesia is reached, and then given, perhaps drop by drop, or according to the indications of a

return to sensibility. The recurrence of the lid-reflex (*i. e.*, the closing of the lid when the conjunctiva is touched), a somewhat dilated, but active pupil, the increased pallor of approaching emesis, and extremely quiet breathing, are generally indications for more anesthetic. If emesis is not threatened, the color will be less pallid as insensibility decreases, and more chloroform is needed. The appearance of the patient differs considerably from that produced by ether. The face is pale, although at the beginning its color may be somewhat heightened. Slight cyanosis may appear and the free ingress of air be interfered with; as, for instance, the pursing of the lips or backward falling of the tongue. The pale face grows even paler, as retching or vomiting is threatened. The respirations are tranquil, or occasionally softly stertorous. The pulse may be rapid, but most frequently is slow, changing to a running or flickering pulse, as complications arise. It may be temporarily accelerated, but becomes slower as full anesthesia is reached, and consciousness and mental excitement are overpowered. The pupils are moderately contracted—variable, of course—but they can scarcely be gauged until the operation has begun, for sometimes they are quite widely dilated reflexly, even during satisfactory narcosis. But in such a case the collective phenomena of collapse are absent. The dilated pupil, which will not react to light, is to be dreaded. It indicates that collapse is imminent. The vapor must not be administered sufficiently strong to cause the patient to cough, or hold the breath.

In from ten to twenty minutes after reaching profound anesthesia the body temperature will be subnormal, the muscular system be relaxed, the conjunctiva insensitive, and the eyeballs fixed, or one may be fixed and the other mobile.

Plethoric, or obese patients, are somewhat prone to stertorous breathing during deep anesthesia, and the respiration may be a little hurried or deeper than normal. As under ether narcosis, the lower jaw should be kept well forward, and pulse, respiration and color of the face carefully watched.

The sub-cutaneous injection of morphia before the administration of chloroform is sometimes advisable. Nussbaum, of Munich, is credited with being the first to publish observations upon the subject in 1863. He, however, injected the morphia during anesthesia, with the intention of relieving the after-pains, and succeeded in producing a somewhat prolonged sleep after the operation. Later, the drug was injected about twenty minutes before anesthesia was begun, with the idea of aiding the chloroform in overcoming sensibility. The result was as expected. The inhalation of the anesthetic was followed by less mental and muscular excitement, and much less of the anesthetic was required to maintain a satisfactory level of anesthesia. The anesthesia thus produced is quieter, and the tendency to respiratory irregularities and asphyxia less noticeable.

Remember, however, that a victim of the morphine habit, or the abuser of any narcotic drug, makes about the worst possible subject for anesthesia that can be found, and from first to last must be watched with the most painfully rigid attention, if the anesthetist does not want to find a corpse on his hands. The drug habits of a subject are far too rarely ascertained.

There are various influences which modify the action and, in consequence, the phenomena of chloroform anesthesia. The manner of administration, the condition of the air passages, the nature of the operation, the position of the patient, his general physical status, and his susceptibility to the action of the drug, are conditions which are quite capable of exerting a modifying influence during the induction and maintenance of anesthesia. Although some advise that the drug be administered freely and continuously, the attention of more than one surgical authority has been directed to what may be correctly termed chloroform idiosyncrasy, and, bearing this in mind, the anesthetist will avoid reckless freedom in the exhibition of the drug. It must be administered cautiously, and in small quantities, in order that the patient's susceptibility may be estimated.

Accidents are more prone to occur among men than among women. This is particularly noticeable among muscular subjects, probably because they require

so much more of the drug, and because they are most likely to display a tendency to muscular spasm; and this adds decidedly to the danger, because during a muscular spasm the thorax is fixed, the chloroform vapor is imprisoned within the lungs and rapidly absorbed, especially if the blood be circulating slowly, and affording more time for absorption.

Obstruction of the air passages is not so likely to occur during administration of chloroform as during the inhalation of ether, for the reason that the tongue is usually less engorged, because chloroform does not produce the same abnormal secretion of mucus and saliva. But the same degree of asphyxia or respiratory embarassment with chloroform is far more dangerous than with ether. This is because the chloroform heart is already depressed, and can not stand the extra strain levied upon it by the impeded respiration. Careful anesthetists have noticed evidences of circulatory failure even while the respiratory efforts were regular and satisfactory and, therefore, such evidences of danger would be overlooked if the respiration alone were relied upon to give signs of impending danger.

The pupils must be watched as to size and mobility, the countenance as to color, and the pulse and respiration as to time and character. The conjunctiva should be tested repeatedly for the lid-reflex, and sometimes the patient's anesthetic tolerance may be gauged by observing the muscular tone. Jerking of the arms has been known to precede respiratory cessation.

Respiratory Failure.—From what has previously been said, it will be seen that any respiratory embarrassment requires prompt attention. There is not the same tendency to respiratory complications from the administration of chloroform as from the use of ether, but occasionally inhalation of the former anesthetic is attended with stridor, or a high-pitched crowing respiration. This is most frequently associated with a light degree of anesthesia, and subsides as more chloroform is added. At times it persists during the operation, regardless of a freer use of the anesthetic. Nor does elevation of the jaw, or tongue-traction, always cause its subsidence, although they should be tried. If it should occur during deep narcosis it will be likely to disappear with the free admission of air. For it is believed that profound anesthesia may lead to a spasm, or falling together of the aryteno-epiglottidean folds, in which case air must be admitted freely, and the jaw and tongue attended to, as frequently advised. Fortunately, this is not of common occurrence, but for all that it must be regarded as important, because such a quality of breathing has sometimes been the forerunner of respiratory cessation. Closure of the glottis is by no means an impossibility under chloroform, and the finger should be swept over the base of the tongue.

Another danger to respiration is threatened when chloroform is administered for the performance of an operation under gaslight; that is the decomposition of the anesthetic, the products of such decomposition being carbonyl chloride, or phosgene gas and hydrochloric acid. In some reported cases these were responsible for post-operative pulmonary complication.

Circulatory Failure.—Aside from the toxic influence of chloroform upon the circulatory apparatus there are other conditions that are known to have some effect upon it. Vomiting may induce cardiac depression, and as it often indicates light anesthesia, it may be relieved by striving for a more profound narcosis. The increased pallor, dilated pupil, shallow respiration, and small, weak pulse, often bespeak pending emesis, which may be averted by more of the anesthetic. Here, again, the anesthetist must be cautioned to watch the respiration, for the slightest degree of respiratory embarrassment may promptly produce signs of cardiac failure, as so may excited struggling, or the surgical manipulations themselves. When such signs manifest themselves inversion, artificial respiration and cardiac stimulation are in order. Dilatation of the sphincter ani to its utmost by Pratt's rectal speculum, and one, two, or three smart, brisk slaps with the hand over the heart and chest are two most excellent methods of resuscitation too little commended, or employed. The first is almost certain of producing favorable results, where the patient is still hovering around

the margin that separates life from death. How antiquated methods that have only too often failed are still recommended, and these two simple and reliable ones are seldom or never mentioned, shows how little real attention has been devoted to an accident that is certain to be experienced by every anesthetist who follows the calling any reasonable length of time.

Galvanism is not of the slightest use. Artificial respiration and inversion are well combined in the manner described by Kelly: "On the first indication of failing respiration the administration of the anesthetic should be instantly suspended, and the wound protected by a fold of gauze. An assistant steps upon the table and takes one of the patient's knees under each arm, and thus raises the body from the table until it rests upon the shoulders. The anesthetizer, in the meanwhile, has brought the head to the edge of the table, where it hangs extended and slightly inclined forward. The patient's clothing is pulled down under the armpits, completely baring the abdomen and chest. The operator, standing at the head, institutes respiratory movements as follows: Inspiration, by placing the open hands on each side of the chest posteriorly over the lower ribs, and drawing the chest well forward and outward, holding it thus for about two seconds. Expiration, reversing the movement by replacing the hands on the front of the chest over the lower ribs, and pushing backward and inward, at the same time compressing the chest. The success of the maneuver should be demonstrated by the audible rush of the air in and out of the chest." Care should be taken not to work too rapidly, and the anesthetizer must not lose his head. At the first sign of failure of either pulse or respiration, a hypodermic injection of one-thirtieth of a grain of strychnine, alone, or combined with one one-hundred and twentieth of a grain of atropine, should be given as a routine matter.

Rhythmic tractions on the tongue, at the rate of about twenty to the minute, have been strongly recommended of late. Other methods of resuscitation are: Forcibly and sharply compressing the precardium, to directly stimulate the heart; plunging a needle into the ventricle; dashing cold water on the face, and holding the vapor of amyl nitrite to the nostrils. The two latter depend upon sensory reflexes, and would only be of use before actual cessation of the heart and respiratory movements. Efforts should not be abandoned for an hour, at least.

Syncope, brought about by the direct action of chloroform itself, may be a cause of death, even during the first and second stages; here it must act directly upon the cardiac muscle. During the operation, *i. e.*, during full anesthesia, accidents are attributed to shock, syncope, and respiratory failure.

I have taken it for granted that every reader of the BRIEF knows that a patient about to receive an anesthetic should be deprived of all solid food for at least five hours previous to the administration; that a purgative should be given the night before, and an enema, the morning of the operation; also, that the bladder should be emptied just before the anesthetic is given.

To sum up the signs of importance during anesthesia:

Breathing.—Snoring is an assuring sound, but the stertor produced by a partial closure of the glottis is ominous, and the moment it is heard the jaw must be brought more forcibly forward; if it does not cease then, the anesthetic must be discontinued until the condition is corrected.

The Pulse.—At the beginning of anesthesia the pulse will often be very rapid, due to the excitement of the patient, but as soon as unconsciousness is complete, it usually becomes much slower.

The Pupils.—On beginning the anesthetic the pupils dilate, then contract until normal, or a little smaller, and usually remain contracted during the maintenance of safe anesthesia. If they are dilated and respond to light, it indicates that the anesthetic is not profound; if dilated and they do not respond to light, it indicates that the anesthetic has been pushed to a dangerous extent, and it must be instantly stopped. The variation of the pupils in different individuals is so great that too much must not be risked on their appearance.

Color of the Face and Lips.—If the face becomes blue, it shows that the patient

is not getting enough air, and the inhaler must be removed at once. A patient with bright, red lips, or rosy cheeks, is not in any immediate danger from the anesthetic.

Forms of Death from Anesthetics.—1. From sudden paralysis of the cardiac ganglions, early in the inhalation, by reflex action proceeding from some peripheral injury before complete anesthesia is produced. The stage of incomplete anesthesia is always a dangerous one in which to perform any operation around the distribution of the fifth nerve.

2. In the stage of rigidity, from tetanic fixation of the respiratory muscles, the blood backing up on the venous side and arresting the heart's action.

3. In the stage of complete relaxation, by paralysis of respiration, or by paralysis of the tongue, causing obstructed respiration.

4. In the same stage, by paralysis of the motor ganglions of the heart.

5. From the depression of the function by chloroform narcosis and from shock, and may occur in the anesthetic state, or afterward.

Finally, let me say, the anesthetist that fails to give his entire and undivided attention, from first to last, to the helpless fellow being, whose life he carries in his hands, is not alone unworthy of the name of a physician, but of a man.

Before these lines see the light of print, the writer himself will have had an anesthetic administered to him. If he is treated in the same manner he has advocated that others should be he will be satisfied.

[Written for the MEDICAL BRIEF.]

Intestinal Toxemia.

BY M. M. FOY, M. D.,
St. Louis, Mo.

The symptoms of intestinal toxemia are familiar to every doctor. The heavily-coated tongue and bad breath, the dull and dizzy sensations in the head, the dingy, sallow skin, and bloodshot eyes, the irregular heart action, and nervousness, are all indications that there is trouble in the digestive organs, and that the blood is being contaminated with toxic products generated by the perverted activity of these organs.

Many persons continue in this state for years, taking treatment for first one symptom, then another, but never striking at the fountain head of the trouble. The resulting impoverishment of the blood and exhaustion of vitality pave the way for some chronic disease, such as malaria, tuberculosis, rheumatism, Bright's disease, etc.

A great many people suffer habitually from partial constipation. The bowel is distended with unwholesome, decomposing matter, which causes pressure on other organs, numbing them, and interfering with their circulation. Colicky pains and occasionally abdominal inflammations are set up in this way.

Constipated subjects accomplish a mechanical evacuation from time to time by enemas or by drastic drugs, which irritate and weaken the bowel. Constipation can never be cured until the act of digestion is made normal, since it is caused, in ninety per cent of cases, by a lack of some of the elements of digestion.

In the small intestine the work of digestion is completed, and the task of assimilation is begun. In the small intestine any deficiency of gastric, or of salivary digestion, should be made good. A lack of pancreatic secretion, or a sluggish state of the liver, results in obstinate constipation with flatulence and colicky pains, followed by all the well-known symptoms of intestinal toxemia.

If intestinal indigestion becomes chronic, through neglect or some constitutional weakness, a catarrhal condition is apt to be set up, the walls of the bowel are constantly lined with mucus, and this interferes with assimilation.

The discovery of diastase marks a new epoch in the treatment of intestinal indigestion. Its use, in small quantities, brings the digestive power of a poor quality of pancreatic juice up to the normal, and aids greatly in relieving the flatulence.

Now, associate diastase with a mild, tonic bitter principle, having powers both as a laxative and a cholagogue, such as cascara sagrada; add an intestinal antiseptic to prevent decomposition, and you have a choice and very satisfactory com-

bination in the treatment of intestinal indigestion and constipation.

With improved digestion and the relief of constipation, the symptoms of intestinal toxemia disappear, the subject is better nourished, his head becomes clear, he gains in energy, confidence and poise.

A little nux vomica still further improves the above formula.

[Written for the MEDICAL BRIEF.]

Medical Wonders and Medical Blunders—A Story of Facts.

BY M. J. RODERMUND, M. D.,

Milwaukee, Wis.

"It is only when we learn what ought to be, that we fully realize the hideousness of that which is."

CHAPTER V.

It is a fact in nature's phenomena that "all things the equal, the same results are obtained." If this were not true there could be no science. Everything would be chaos and guess work, and very poor guess work at that. The foundation of a theory is a conclusion drawn from well-known facts, and all arguments are usually based upon this foundation. From this standpoint of reasoning anything can be proven on paper, or by argument, to be correct, no matter how wrong or fallacious the theory may be. To illustrate:

When it was assumed that the earth was flat, the philosophers proved that they were correct.

When it was assumed that witches and Jews were the cause of disease, the evidence upon which it was based was so conclusive and so entirely to the satisfaction of eminent jurists that it was sufficient to condemn these people to death.

It was assumed for sixteen centuries that the arteries were empty during life because they were found empty at death.

It was assumed that bleeding and blistering was the *sine qua non* in the practice of medicine.

It was assumed that a five to ten per cent solution of carbolic acid was the antiseptic par excellence.

These, with many others at one time called Medical Wonders, are now pronounced Medical Blunders.

It was assumed that vaccination prevents small-pox; this assumption is sustained by statistics and results.

It is assumed that quarantine prevents the spread of epidemic diseases.

It is assumed, because diseases spread from one to another in a family, from one city to another, or from State or nation to another, and that this spreading of disease is due to contagion.

It is assumed because one man locked another up behind a screen with a mosquito and then came down with yellow fever, that the bite of the mosquito was the cause of the disease.

It is assumed that a certain kind of germ is the cause of the white plague (consumption).

It is assumed that a certain kind of germ is the cause of diphtheria.

It is assumed that certain antiseptic measures and precautions, such as a boiled-down operating room, boiled instruments, scrubbed hands, beardless faces, are necessary to a successful operation.

It is assumed that statute laws and health officers can control disease.

It is assumed that nearly any form of bellyache is appendicitis, most likely for the fee, and that this useful organ must be removed. These are some of the Medical Wonders of the present century.

These Medical Wonders are the fundamental pillars upon which the present structure of medicine and surgery stands.

The object of writing this story is twofold:

1. To explain and present the proofs beyond a question of a doubt, that the Medical Wonders above named are the most misleading, nonsensical, worthless, fallacious, and the most injurious Medical Blunders ever invented by the medical profession.

2. To explain how natural laws produce the condition called disease and, especially, all the zymotic and epidemic diseases. In other words, how things make themselves under certain conditions.

I will give special attention to consumption, as there is no other disease of which we are so far away from the real truth as to its cause.

After my story is fully told there ought to be no more doubt as to where the truth lies, where it always was, and where it always will be.

It will amaze and astonish the thinking and reasoning men that it could be possible that such simple facts, yet so great, so beneficial, have laid before our eyes all these centuries; the public craving for them, the scientist hunting for them, but all had passed them by. If the above statements are true, there is very little, if anything, left for the present medical structure to stand on. But I will replace them and build them upon the bed-rocks of nature's laws. This will, at last, put the art of medicine upon a certain and scientific basis. I will make it plain, so that a blunder or mistake made in the practice of medicine will be inexcusable, and should be made a criminal act and punished by imprisonment.

I will now briefly call attention to a few of our present Medical Wonders, and in my next article begin the essential and interesting part of my story.

CHAPTER VI.

WHY IT WAS TOLERATED A CENTURY.

Vaccination has been fought by thousands of the ablest intellects of the past century. Yet, in spite of all this opposition, it is just as strongly upheld and defended by the profession and the public to-day as it ever was, and flourishes now as it did in the past. Considering the advancement in science and general education, it itself ought to be fairly conclusive evidence that, at least, some virtue must exist in vaccination. If vaccination has no virtue whatever, as the anti-vaccinationists claim, why is it that they have not succeeded in putting it on the rubbish heap, after presenting such strong opposition in court and out of court, during the century?

Again, if it has no virtue toward helping the welfare, or the protection of the public, why have not the medical profession of their own accord done away with it? It is almost impossible that if the medical men are the noble and honorable body of men they pose before the public to be, they would have not insisted that vaccination be done away with, if once satisfied it had no virtue. The only point I intend to emphasize in this chapter is that neither the provaccinationist, nor the antivaccinationist have ever proven their case, and this is the reason that this question has stood the brunt of so much agitation for a century, and has never been settled. For a minute, let us see what the claim of both sides are. The provaccinationists claim that vaccination prevents small-pox, lightens the attack of the disease, and has decreased its prevalence. This is based upon abundance of statistics and results.

The antivaccinationists claim that vaccination does not prevent small-pox, that it kills thousands of innocent victims, poisons the system, and produces dozens of various forms of disease. All this is based upon innumerable statistics and results. Is this not true? Has the reader ever stopped to think that statistics and results prove nothing, unless based upon the principle of "all things equal."

The medical profession supports its contention that vaccination is beneficial, by statistics and results. Even if their contention is right they have never proven their case, as their statistics are no more based upon the principle of "all things equal" than to say that the distance between the sun and the moon is equal. Then, even if vaccination is beneficial, not a single proof has ever been presented to substantiate their claim. For instance, one of the strong claims made is that small-pox is not near so prevalent, nor so severe. Granting this is true. How can this be presented as evidence unless the conditions have always been the same? Every one knows the conditions are not only different, but are as vastly different in degree as there is difference between the best-civilized person and a Zulu slave. Why has cholera disappeared, which sixty years ago was one of the most fatal diseases in this country? Why has fever and ague entirely disappeared from most Northern States, where at one time it was as prevalent as flies in summer? Why have other diseases decreased more than small-pox, and different ones increased? All this is admitted to be due to change of natural conditions.

There certainly was no vaccination to produce these great changes in the prevalence of these diseases.

But if there had been something similar to vaccination, which had been by statute law, or otherwise, forced upon the

public, we, the medical profession, would undoubtedly have done as we have with small-pox, crow like a turkey gobbler on dress parade, "We did it." This logically puts us provaccinationists without argument.

I will now proceed to put the antivaccinationist into the same hole. The reason why the antivaccinationists have not been successful in winning one of the hardest-fought battles of the century, is because they have never proven that vaccination does not prevent small-pox. Because vaccination has killed thousands and injured millions is no proof that vaccination is not beneficial, or that it can not prevent small-pox. Good food and drink has killed thousands; that is no proof that food is not beneficial to man. Medicine and the surgeons' knives are killing hundreds every day; this is no proof that medicine and the knife can not be useful at the proper time, but the fact is, it often is a life-saver. Medical authorities admit the injury of vaccination, but now claim that its benefits exceed the harm done.

The old argument that all questions have two sides is usually brought forth when one is closely cornered. I answer that nature's laws have only one side. It is impossible to make two sides to these unchangeable laws. Where once discovered and demonstrated they stand forever. It is by means of these laws that this question must be settled. By these laws vaccination can be blotted out of sight forever in a very short time. This must be accomplished by explaining and demonstrating the cause of small-pox, and then knowing the cause of small-pox, will positively prove the fallacy of vaccination. This proof I have. I have it so certain that every power of hell or earth will never overthrow it. With this statement I will leave this subject.

CHAPTER VII.

QUARANTINE.

Upon the subject of quarantine, I wish to be brief, and only call attention to a few points. Quarantine is for the purpose of preventing the spread of disease. What I wish especially to discuss is, if disease is really contagious, that no known method of quarantine can possibly prevent or control a single case, any more than the Chinese can prevent or control an eclipse of the sun by standing along one side of the street with tin pans, and drumming upon them to prevent the sun from eating up the moon. We may admire the sincerity of the Chinese, but we do deplore their judgment.

There is not an atom more to support the quarantine theory than there is to support the above Chinese superstition. The two are analogous as can be. The Chinese are at least sincere, but in twenty years of experience and observation I have very few instances to find any sincerity among health officers in belief that quarantine is of any benefit. Every time I would call the attention of these Medical Wonders, disguised as health officers, of the fallacy of quarantine, they would put me off with the remark, "Doctor, I believe you are right, but it is the law; you change the law and we will change."

My experience, I believe, along this line has been as extensive as that of most any other man. Quarantine is simply a merciless graft, pure and simple. There may be exceptions, perhaps a few in Missouri.

Dr. Bracken, of the Minnesota Health Board, five years ago, was one of my strongest maligners and persecutors, who thought as there was no law to send me to hades, there ought at least be a law to put such a lunatic out of the way. Dr. Bracken now changes his mind. In the summer of 1905 he published an article in the *Medical Journal*, in which he said:

"That it had been thoroughly demonstrated that it is impossible to control small-pox by any known method of quarantine. The quarantine is either evidence of a lack of scientific knowledge as to the proper means to be employed, or inability to apply such knowledge."

Also, "that the attempt to control small-pox by quarantine is unscientific, expensive, and an absolute failure." Perhaps some of the hard raps I gave the Doctor five years ago set him a thinking; at any rate I am pleased to acknowledge his reflective and observing qualities. I accepted the published challenge of the Health Board of Minnesota at that time, which, apparently, was a great bluff, as they quickly drew in their horns, and

went back into their hole, to think matters over.

Admiral Dewey, in discussing the subject of quarantine, said: "I can take a thousand tons of coal and it will be put aboard by a lot of these dirty Arabs," pointing to a swarm of black creatures who were putting coal aboard a merchant steamer, near by, "but if I so much as shake hands with you, a quarantine officer will refuse to give me a clean bill of health for this little act of friendship. I should be quarantined at Trieste for eleven days. Quarantine laws, you know, are the queerest things in the world, but we have to be governed by them, and so you may look at me and talk to me, but you can not touch me."

Why is it that this immense amount of poison which is thrown out on the surface of the body of a small-pox patient, and covers the whole body about one-eighth of an inch thick, did not kill the patient before it was thrown out on the surface of the skin? Yet, if a healthy person would stick his head into the room where this patient lies, and take a sniff of air, he would be liable to take the disease; not only would he be liable to take it himself, but would be liable to spread it all over the community? How can quarantine stop this poison from immediately changing back into its primitive elements when it strikes the air and the sun's rays?

Why is it that a policeman standing in front of the house, with a club, can prevent the poison eliminating from this patient's body, from passing through the open window, through the key-hole, through the cracks? How does this policeman stop this poison from passing to the neighbors, or stop it from alighting upon his own clothes and down his throat and lungs? Why is it that this patient, who lies in bed and has this poison coming up from under the bed clothes, breathing it in by gallons, every hour for weeks, gets well? Why is it that this poison, breathed in by the doctor, and that gets into his hair, his beard, down his neck, or under his clothes, can not be as dangerous to himself, and the hundreds of people he exposes as if he was a layman? Why is it that this doctor is not the most dangerous man to spread diseases to others? Is it because the doctors, policemen, health officers and ministers have a special dispensation from the Lord to prevent them from spreading disease? These same questions are applicable to diphtheria, scarlet fever, and other diseases.

I have been a diligent investigator for twenty years, to find answers to these questions. The only answer I have been able to get was that our great authorities say so—that ought to be sufficient. I have practiced the opposite, ignored authorities, ignored the statute laws for twenty years, with far better results to my patients. Why is this true? Will some reader of the BRIEF answer? If not, I will make the whole subject as clear as the noonday sun when I come to explain the causes of these epidemic diseases, and also show that they are the most harmless, the least dangerous, the easiest and most successful to be treated of all other diseases. Just reason and analyze these questions, and it will become apparent that if our present beliefs are true, the world would have been depopulated long ago. How fortunate for mankind that nature goes on in her old simple way, no matter how long established, or foolish and nonsensical our beliefs are, or how much they are opposed to her laws.

207 Grand Avenue.

[Written for the MEDICAL BRIEF.]

Carcinoma of the Gall-Bladder and Gall Ducts.

BY M. R. BARKER, M. S., M. D.,
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A series of papers on the diseases of the gall-bladder and ducts must be incomplete without a paper discussing carcinoma of these organs. Recognizing full well the gloom in which the treatment of this condition is shrouded, for reason of our inability, at the present time, to make an early diagnosis, hence our inability to successfully cope with the disease. It is always more pleasant to write of those conditions, and evils that pester, torment, and destroy human lives in which a sure hope, the olive branch of peace to many darkened lives, may be held out with confidence and in truth, than to write of those conditions in which the only hope

that can be extended exists in the great unknown.

Nevertheless, carcinoma of the gall-bladder is a subject of the greatest importance, and one that should receive the fullest discussion possible, in order that a better knowledge, if possible, may be had of its early manifestation, and early diagnosis made, and patients presented for treatment at a time when best results may be obtained. Not only should a more thorough knowledge of the early manifestations of carcinoma of the gall-bladder itself be had, but a better, and a more intimate knowledge of those conditions that, in the experience of medical men, lead to it. The latter being most important. It being a fact, almost all cancers of the gall-bladder and ducts are secondary to some other conditions, cholelithiasis, or gall-stones, being the most frequent precursor. It is a fact, fully recognized, that nearly all cases of carcinoma of the gall-bladder either follow or accompany gall-stones. This fact should be heralded far and wide, and repeated, only to be repeated again and again in song and story, if need be, so great is its importance, until every deaf ear in the medical profession is made to hear and understand this truth.

This fact, if it stood alone, is sufficient to attach to gall-stones a danger that places the malady in the front rank of dangerous conditions. When this fact is at last ground into medical men, generally, and they comprehend what it means, they will waste less sweet oil in these cases, which serves a better purpose as a condiment, and refer their gall-stone cases to the surgeon as quickly as a diagnosis can be made, while they are in such condition that the operation is a benign one. When this becomes the universal practice of physicians, as it will, because the laity will understand these things after awhile and demand their rights, as they do now in appendicitis, then carcinoma of the gall-bladder and ducts will be surgical curiosities, and carcinoma of the liver will be reduced in frequency at least two-thirds.

The good that would result to the human race from early operations upon gall-stones can not be estimated. Cholecystitis, with its long train of evils, and which is so frequently caused by gall-stones, would be in a very large degree eliminated from the category of human diseases, and carcinoma of the gall-bladder, which is a relatively common condition, would be almost unknown. The importance of early operations upon gall-stones can not be too vigorously emphasized, nor too enthusiastically championed by thinking, energetic leaders in the medical profession.

It is obvious from the above that in those individuals in whom gall-stones most frequently occur, carcinoma of the gall-bladder and ducts is most frequently found, hence we find, as in gall-stones, that carcinoma of the gall-bladder occurs five times more frequently in women, who have borne children, than in men, and most frequently in the phlegmatic temperament. Carcinoma of the gall-bladder has been known to occur in women under forty years of age, but it is usually found after middle life; in other words, it is a disease of advanced life.

Gall-stones occur most frequently during middle life. From these facts we must conclude that gall-stones may remain a long time in the gall-bladder as a predisposing condition to carcinoma before the carcinoma begins, hence early operations for removal of gall-stones removes the predisposing cause of carcinoma before the tissues have become jeopardized.

There are two forms of carcinoma of the gall-bladder, one of which, commencing in the tissues of the gall-bladder, quickly spreads to the liver tissues. This form can not be differentiated by its symptomatology from primary cancer of the liver. The other form remains located in the gall-bladder for some time, and by its local action compresses the bile ducts, causing jaundice. In the first form jaundice and ascites occur later in the disease, and when they occur treatment of any nature is unavailing; while in the second form the disease may still be confined to the gall-bladder, when jaundice occurs, and some hope for successful removal of the gall-bladder may be entertained, even at this time. An exploratory operation is the only means of revealing the true condition.

The early symptoms of carcinoma of the gall-bladder do not differ at all from

those conditions of a comparatively trifling ailment. Loss of appetite, disturbance of digestion, pain in the back, all of which may be of a fleeting and intermittent character, render a differential diagnosis at an early period impossible. If, however, these symptoms persist in a patient who is known to have had attacks of hepatic colic, or other evidences of gall-stones are attainable, and the case is beyond middle life, strong suspicions of cancer of the gall-bladder should be entertained, and exploratory operation in aid of diagnosis insisted upon. The surgeon should be prepared to do any work that may be indicated at this operation.

Later in the disease the diagnosis is not so difficult. A hard nodular tumor will be present, constant pain in the back, and between the shoulders, cachexia, jaundice, and ascites. These, added to the earlier symptoms, make a tell-tale picture that all may interpret, and means incurable cancer. The diagnosis at this time is valueless, except to fill a blank in the death certificate, as the case is beyond help.

We may, and do have cases, in which cachexia, jaundice, emaciation and pain are present, without ascites or tumor, in which we may hope that the disease is not cancer, but a stone in the common duct. In such cases a positive diagnosis is impossible without an exploratory operation, and the patient should be given the benefit of the doubt, and an exploratory operation done. Even in cases of choledocholithiasis, or stone in the common duct, the portal vein may be compressed by the stone, and ascites result.

Hence, having a case with all the symptoms of advanced cancer of the gall-bladder, except tumor, we may hope that the symptoms are due to stone in the common duct. Unless there is a large, hard nodular tumor, which is evidently connected with the gall-bladder, with all the other symptoms of cancer present, we may still explore, with the hope that the trouble is stone in the common duct.

In that class of cases in which there is evidently some gall-bladder trouble present, and pain, more or less severe, persists all the time, in a patient above middle life, accompanied with loss of flesh and strength, cancer of the gall-bladder should be suspected, and an exploratory operation advised.

Treatment of carcinoma of the gall-bladder and ducts has not met with that degree of success that is at all encouraging, neither can we expect success until a way is found of making an early differential diagnosis. A number of cases have been reported in which operations have been done, removing not only the gall-bladder, but portions of the liver, hoping to remove all diseased tissue, but the disease, in every case, has returned, and the patients succumbed in a short time to the disease. If the glands about the portal vein are involved, a radical operation is impossible. If the malady is confined to the gall-bladder it may be eradicated. Of course, there is in every case a time when the disease is confined to the gall-bladder, but that time, doubtless, is short, and the disease does not produce a symptom complex sufficient to lead to its detection until after it has spread to other tissues.

Operations upon cancer of the gall-bladder have another unfortunate result. The laity do not discriminate between operations for cancer of the gall-bladder and operations for any other conditions of this organ; hence, all are unjustly held in like disrepute.

Until some method of diagnosis is devised which will enable us to make a definite diagnosis of cancer of the gall-bladder much earlier than we can now make it, the treatment of this malady must remain in its present discouraging condition; our only hope being that physicians generally will recognize the danger that lurks in their gall-stone cases, and advise the early removal of gall-stones, thus relieving the gall-bladder of the most frequent predisposing cause of cancer.

Carcinoma of the bile ducts most frequently occurs in the papilla, or ampulla of Vater of the common duct. This is also the place where gall-stones are most commonly found, in the bile-ducts, which have usually been conveyed there from the gall-bladder while small, and which grow by accretions in their new location. As stated in a previous paper of this series, we believe gall-stones very seldom form in the common duct, but are brought from the gall-bladder to the com-

mon duct and lodge in the ampulla of Vater quite frequently, and here grow by accretions and produce that condition which predisposes to cancer, which seems to be long-continued irritation. Ninety-nine per cent of all the cancers of the biliary passages are found in the gall-bladder or in the ampulla of Vater, of which cancer of the gall-bladder is much the more frequent. Unfortunately, diagnosis of cancer of the gall-ducts is almost never made early. The symptomatology is not of such a character as to differentiate it from other conditions that are comparatively harmless and occur almost daily, and readily yield to medical treatment; hence, the true condition, too frequently, is not recognized until radical treatment is out of the question.

The only forlorn hope that can be offered is an attempted radical operation, and an anastomoses made between the remaining portion of the duct and the intestine. This has been successful in a few reported cases.

The other locations where cancer of the bile-ducts are most likely to occur are at the junction of the cystic with the common duct, and at the bifurcation of the hepatic duct. Ninety-five per cent of all the cases of cancer of the biliary passages perish. This is true for this reason: Carcinoma of the gall-bladder and gall-ducts is not, in a great majority of cases, a primary disease. Its early symptomatology being masked by the primary condition, which is, almost always, gall-stones, and its distinguishing features, if it has any, are not discernible from those of the primary condition, until it is too late for successful treatment.

If all gall-stone cases terminated in carcinoma of the biliary passages, there would be no question in the minds of the profession, nor of the laity, as to what measures to take. But as many cases do not thus terminate, there is always the hope of exemption, hence the inclination to take chances.

Troublesome gall-stones should have no place in the human system. The insults they perpetrate, and their sequela, other than carcinoma, are sufficient reasons for their removal as quickly as they manifest themselves, but when carcinoma, which almost certainly means death, becomes a probable sequence, how much more important their removal becomes while the tissues are free from this condition.

Early removal of gall-stones would, in a great majority of instances, prevent the following conditions: Cholecystitis, cholangitis, choledocholithiasis, cholæmia, empyema of the gall-bladder, peritoneal adhesions of the gall-bladder, carcinoma of the gall-bladder and gall-ducts. Gall-stones being, in a great majority of cases, the primary cause of all these conditions. Why should agents, having such far-reaching, vicious effects upon the human system, be harbored within it, when there are methods for their removal, which, if used before complications arise, are free from any disagreeable consequences?

There remains another condition that must always be taken into account when trying to determine the cause of common duct obstruction. We refer to tumors of the head of the pancreas. The common duct, normally, is in close relation with the normal head of the pancreas. When the head of the pancreas is enlarged by a tumor formation, the common duct may be occluded by pressure of the tumor upon it. This has often happened. If the patient is not too portly the tumor may be palpated, and usually a correct diagnosis of tumor of the head of the pancreas made. But it is usually not possible to tell whether the tumor is benign or malignant, hence recourse to exploratory operation should be had. If the tumor is malignant it will be useless to attempt its removal, but if benign it may be successfully dealt with surgically.

It is evident from the above that we have no way of making an early diagnosis of carcinoma of the gall-bladder and gall-ducts without an exploratory operation, and often when the exploration was thought to be early it was found to be too late. Neither in the late cases, at all times, are we able to say positively it is, or is not, cancer, and recourse to exploratory operation must be had to decide the question. Some lives have been saved by this procedure.

It is also evident that the only treatment for this condition, that offers any satisfactory results, is the prophylactic treatment of removing gall-stones from the gall-bladder as quickly as they mani-

fest themselves. And, as this treatment is accompanied by no danger, nor mortality, and prevents the occurrence of so many conditions of a dangerous character, there can be no question as to the duty of the physician in these cases.

1625 Greenwood Avenue.

[Written for the MEDICAL BRIEF.]

Anesthesia and Its Proper Administration.

BY D. W. HUNT, M. D.,
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This is the subject of a recent article in the BRIEF, a subject worthy of most careful consideration, and while the points are well taken, still there are a few suggestions that might be made which may account for some of the successes there mentioned and attributed to the "goodness of the Lord."

During a long life, in constant medical practice, and much of the time where I was compelled to be my own anesthetician and operator, I have had the same "goodness of the Lord" manifest, or at any rate success attributed to the student here mentioned.

The writer may well remember that it is never the men who do not know how to swim who get drowned, but always the expert swimmer—the expert takes chances. So, in the administration of chloroform or any anesthetic, "familiarity breeds contempt," and "haste makes waste," are the homely adages that will account for the most of the deaths from chloroform, or the anesthetic. You do not hear of deaths in the rural districts, and where the amateurs are giving the anesthetic. Why? Simply because they take no chances, administer slowly, and watch carefully every symptom, and you can not prevail on them to hurry or push the anesthetic when any untoward symptom is present. We find that death always occurs in the early part of the administration, not after the patient has been under it for some time. It is the haste in administration, and not allowing any air to reach the patient during its first influence on the respiration. As a result, we are completely paralyzing respiration; then, if one goes slow, allows an inspiration or two of good air, we are able to tide the patient over this critical period; or, later, the operator may be in a hurry, and the anesthetic is pushed without any air being allowed to enter the lungs, that the patient reaches the limit and succumbs. This, I think, will amply account for the deaths. If you can invent any way to keep men from being careless after they have mastered the operation of administering an anesthetic, and keep people from hurrying, I think the same "goodness of the Lord" will follow the daily operation in the hospital and operating room that it does the lonely surgeon and amateur in the administration of anesthetics.

[Written for the MEDICAL BRIEF.]

Authority.

BY S. E. GIBBS, M. D.,
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From a medical standpoint, an authority may be defined as one who has had special acquaintance with a subject, or has shown special ability, or mastery in it and, therefore, is, or may be, appealed to in support of action or opinion.

The young student has not made much progress in his studies before he begins to realize that in the medical profession there are many so-called authorities; more, perhaps, than in any other profession, and his aim is, therefore, to become acquainted with the views held by the best of them. The question will, therefore, frequently present itself, Which are the best authorities, and whose teachings are the proper ones for him to follow?

His course of study before graduation covers at least four years. He has his text-books, written (or compiled) by authorities, and he listens to lectures, also delivered by authorities. And if he expects to graduate from the same college in which he begins his studies he will be compelled to confine those to the curriculum of that institution. He must, therefore, have gained what knowledge he possesses at the end of the course from the books recommended, and from the lectures given by the faculty of that college alone, if he wishes to pass creditably the examinations.

After his graduation, and while waiting for a practice, he will naturally study

other authorities, and one of the greatest difficulties that he will encounter will be to reconcile their teachings with those which he accepted as law and gospel before his graduation, and a very short time only will have elapsed before he will discover, to his astonishment and dismay, that the opinions held by many of the authorities he followed so faithfully in preparing for the examinations, have since been relegated to oblivion, and their places are now occupied by a new set of opinions and line of practice, and so it will be, at various intervals, as the years go by.

Shall we then ask the young doctor to disregard all the teachings of those who have been regarded as authorities? By no means. Give all such teachings its full measure of credit.

The men who wrote your text-books gave you the benefit of their investigation and experience up to the date of their writing, which was invaluable. They gave you their best ideas. But remember that those writers and teachers were not infallible. Many of them have since had reason to change their opinion, and some of them have even advocated in later years the exact opposite to their former teaching.

The heresy of last year is the orthodoxy of to-day. The orthodox practice of to-day may next year be condemned as the grossest malpractice.

Therefore, your duty is to sift the wheat, sift it well, and while giving due credit to those who have labored so earnestly in the past, at the same time have the courage to think for yourself. Do not, while reading the thoughts of others, allow your own thoughts to stagnate. Your own thought, observation, and experience may prove quite as valuable to you in your practice as the thoughts of others.

Follow not, with meek and servile tread, any one merely because he claims to be an authority.

" For never yet hath one attained
To such perfection, but that time, or place
And use, have brought addition to his knowledge!
Or made correction, or admonished him
That he was ignorant of much which he
Had thought he knew, or led him to reject
What he had once esteemed of highest price."

22 East One Hundred and Twenty-Sixth Street.

[Written for the MEDICAL BRIEF.]

Constipation—Its Pathologic Physiology and Treatment by Exercise, Diet and "Visceral Drainage."

BY BYRON ROBINSON, B. S., M. D.,
Chicago, Ill.

(Continued from page 289.)

The chief influence in constipation is the blood and food. The formation of the stool depends mainly on the relation of the solids and fluids introduced into the stomach.

A close relation exists in constipation between the quantity of food ingested, and the resulting fecal residue, which actively counts in treatment. Water is one of the best adjunct evacuants. An exclusively milk diet may create constipation, because the small residue is insufficient to excite peristalsis through the peripheral nerves. If milk creates diarrhea, it is likely from some sudden development of germs, or fermentation. The utility of graham bread in curing constipation lies in the fact that a large indigestible residue remains, inducing colonic contraction; its contained salts either invite fluids or excite peristalsis, both resulting in a kind of massage, or acting like a foreign body to the mucosa.

The habits of life are closely associated with constipation. Society women and traveling men, with irregular ingestion and habits, are liable to constipation. Sedentary habits, deficient exercise and excessive mental work, tend to produce constipation. The use of narcotics, deficient drinking of water, active perspiration and uncomfortable closets, play a role in inducing constipation. Excessive eating or excessive ingestions in the gastro-intestinal canal may lead to atony of the intestinal wall, and consequent constipation. The causal relation of constipation must be sought in the digestive tract itself, in the quality and quantity of food ingested, in the habits, in the relations of other viscera.

In certain cerebro-spinal diseases, the sensory nerves of the intestinal mucosa may be obtunded or blunted, so that the ordinary peristalsis is not excited by the ordinary stimulus of food residue. The

peripheral sensory apparatus of the mucosa does not perceive the usual stimulus, and the bowels become torpid. This is common in certain forms of hysteria, or better, visceral neurosis. In melancholics and hypochondriacs the barometer of their spirits seems often to tally exactly with the bowel activity. The greater the activity of their bowels the more lively and natural their mentality. But it must not be forgotten that constipation is often occasioned by the mental condition. We know personally that vomiting may be induced by a physical cause, or by a mental one. Some will vomit from seeing a fly in the soup. So it is with a genital neurosis, it may create constipation, or may induce a local neurosis by bathing the innumerable ganglia with waste-laden blood. If secretion be deficient, absorption continues, the feces harden, form an increasing plug, and become such an impediment that even vigorous peristalsis will not produce the analward movement required.

Heredity and congenital ailments play a role through the defects in the nerves of the intestines. We deal here chiefly with the purely nervous influence, as the intestinals of the cachectic may be confined, or may act very irregularly. Persons with defective nervous systems, as idiots and the insane, suffer from constipation. The ill-defined hysteric person, or the neurotic subject, is painfully afflicted with constipation, with sluggish bowels, and some of these very subjects are continually complaining of colicky pains, which are to be interpreted as vain attempts of peristalsis to force the bowel contents analward.

In constipation splanchnoptosia plays its role by flexing the intestine, producing conditions which require more vigorous peristalsis to overcome; in short, by compromising the bowel caliber. In splanchnoptosia the hepatic and splenic flexures are both made more acute by the consequent dragging of the *ligamentum hepatico-colicum et phrenico-colicum sinistrum.*

The fecal reservoir, as previously stated, is the left half of the transverse colon, the left colon, the sigmoid and rectum, the field ruled by the inferior mesenteric ganglion. It has been asserted by my respected teacher, Nothnagel, that constipation is relatively frequent in comparison with the rarity of peritoneal fixation. I wish respectfully to differ from this excellent and instructive Viennese teacher. In some six hundred personal autopsies I found peritonitis in the fecal reservoir in at least eighty per cent of the subjects. This peritonitis, due to two causes, viz., traumatic muscular action of the psoas magnus on the sigmoid, and of the distal left limb of the diaphragm on the left colon, which induces migration of pathologic microbes to the serosa; and the abrading of the mucosa of the fecal reservoir at the flexures (splenic and sigmoid), allowing the wound to become infected, and the migration of pathogenic germs to the serosa.

Nowhere in the body is infection from the mucal abrasion more definite than at the *ligamentum phrenico-colicum sinistrum.* In these six hundred adult autopsies we find that the fecal reservoir was afflicted with peritonitis in more than eighty per cent of the cases. Did eighty per cent of these cases suffer from constipation? We think not. Therefore, according to our six hundred autopsies, peritonitis of the fecal reservoir is far more common than constipation, for eighty per cent of adults do not suffer from constipation. Hence, we are forced to the opinion that peritonitis of the fecal reservoir has undoubtedly an influence in inducing constipation, by traumatizing the nerves presiding over defecation. The nerves may suffer from pressure by exudates or edema, from congestion or malnutrition. The final outcome is derangement of the nerves of the fecal reservoir—exaltation or debasement of sensation and motion. As probability is the rule of life, the results of peritonitis of the fecal reservoir is here referred to, and not acute peritonitis. I have shown (Peritoneal Adhesions After Laparotomy, *Amer. Gyn. and Obstet. Jour.*, December, 1895) that gross peritoneal adhesions (bands) attached to organs of maximum peristaltic action, as the middle of the sigmoid flexure and the oviducts (or their amputated ends), the mobile bladder, or the active peristaltic loop of enteron, frequently create very much pain, though not necessarily constipation. Yet the finer pathological infiltrations, perhaps, not even macroscopic, or

at least insufficient to create condition of the fecal reservoir which may be far more effective in causing constipation than the gross peritoneal bands which simply fix, dislocate viscera, or parts of viscera, are an important factor in inducing constipation in splanchnoptosia. Perhaps splanchnoptosia should be viewed as a constitutional disease, a general neurosis. The viscera supports very gradually elongate in splanchnoptosia, and the nerves as gardually lose their tone. That the visceral nerves are involved in splanchnoptosia is very evident from the manifest derangement of the nerves of sensation, motion, absorption, and secretion. Splanchnoptosia is a weakening of the nervous system, a special slackening, or elongation of the visceral supports, which we must acknowledge is not manifest in the digestive tract muscles, but attacks the skeletal muscles (*e. g.*, of the abdominal wall).

Every practitioner has observed that with the induction of habitual constipation a peculiar nervous phenomenon also arises. The popular opinion is that the constipation is the cause of the neurosis, but such an opinion does not always stand the test of analysis. Is the neurosis not the cause of the constipation? The finer beginning of the neurosis was not observed, while the grossness of constipation is discernible from beginning to end. After constipation has once started, a train of symptoms may set in, as long retention of the feces allows them to become dry and hard from absorption of fluids. The feces become pressed into the saccules of the colon, as hard, irregular masses, known as scybala. Such masses, by continued pressure, may produce mucus ulceration. The subject experiences fullness in the abdomen and disagreeable sensations; the appetite disappears, gases are eructed, and a disagreeable taste arises. The skin may assume a muddy color, and the fecal masses may be covered with mucus in various quantities. Some practitioners falsely attribute the slime, or mucus, to colonic catarrh. The excessive mucus is due to irritation of the mucosa by the fecal masses, which irritation may also induce a hyperemia of the mucosa, producing disordered secretion, with fermentation and gases. The fecal accumulation can produce not only a transitory mucal hyperemia, excessive secretion and diarrhea, but anatomic changes, such as colonic catarrh, trauma of the colonic wall and local peritonitis. Considerable colic may arise from the attempts of the colon to expel the large accumulated masses, which palpation may reveal.

But, to speak of the difficulties arising from hardened masses of accumulated feces is only to bring in mechanical difficulties, with all their train of evils, on the three tunics of the colon and their functions, which is not our chief theme. Our contention is that constipation is a neurosis of the fecal reservoir.

To illustrate how intimately the nervous system rules the fecal reservoir in its periodic evacuations, all that is necessary is to recall how many patients relate that, on change of business, residence, or scenery, the evacuations being neglected, cease their regularity. So far as I am aware, constipation always has one of its results, the collection of feces in the colon, from the rectal ampulla to Bauhin's valve, but the chief locality is the middle of the transverse colon to the rectal ampulla. The collection of fecal masses in the right colon is rare, and, perhaps, in the right half of the colon it is also rare, except from mechanical causes, *i. e.*, if half of the colon be full of hardened feces, the right half will be full, from the physical fact of its inability to force them analward.

The train of evils resulting from constipation is almost endless, *e. g.*, the fecal masses produce pressure on the returning veins of the fecal reservoir, causing congestion, especially in the rectal veins, resulting in hemorrhoids. Perier has recently attempted to show that the so-called "fecal fever" is due to absorption from the digestive tract. The proof of this he demonstrates by a cathartic reducing the fever. This view of Perier has some show of truth in it, for in puerperal sepsis, in fever after operation, a cathartic reduces the fever like a charm. The drain by the cathartic directs the poison outward. However, it must be remembered that high temperature subsequent to some pelvic operations is rather due to absorption of septic matter remaining in the pelvis than absorption from the

bowel. For long past and even to-day certain widespread opinions, in regard to certain definite connections between the central nervous system and constipation. Constipation and the central nervous system are brought into close relations. All grades of symptoms, from the slightest disturbance to hypochondrical and severe psychical, are included as due to constipation. Certain writers have tried to show that relations exist between dyspepsia and constipation on the one hand, and hypochondria and melancholia on the other. Virchow started such views nearly fifty years ago, and Virchow always wrote with a pencil of light. The celebrated neurologist, Romberg, claimed in 1850, that constipation could induce hypochondria. It is not strange that the opinion of such giants as Virchow and Romberg, both strengthened by observations, should prevail so long. But our belief is that constipation is a neurosis of the fecal reservoir. Hence, constipation, melancholia, and hypochondria are the result of neurosis, and not the cause. We must look to neurasthenia as the forerunner of constipation, as the neurotic invader of the fecal reservoir, bringing in its wake constipation. When neurasthenia and melancholia enter, the process becomes retarded. Recently, Dunin has favored the view that constipation is the result of a neurosis, and not the cause. True it is that nervous persons do not always suffer from constipation, nor are non-nervous persons invariably free from it, but, first, be it remembered that the fecal reservoir is chiefly under the influence of the inferior mesenteric ganglion, and its radiating nerves (sympathetic), and not the cerebro-spinal, though the last-named exercises certain influences over the fecal reservoir; also, that the fecal neurosis is a local affair, *i. e.*, the peripheral nerves supplying the colon in area of the inferior mesenteric artery may be attacked by disease, independently of the remaining sympathetic and cerebro-spinal systems.

The general view here entertained in regard to constipation and neurosis is: That the constipation is the cause of nervous symptoms, *e. g.*, a person suffers for several days from constipation and light cerebral symptoms arise, as headache, dizziness, pressure in the head and inability to think well. There may be feelings of heat in the head and considerable general languor. The urine may be a little scanty and high-colored, with hot and dry skin. There is often slight respiratory disturbance. Physicians generally attempt to prove that all these cerebral symptoms depend on the several days of constipation, from the fact that after a brisk cathartic the cerebral symptoms disappear. This circle may be, and often is, repeated in the same individual.

At first sight this explanation, with its practical demonstration, seems very laudable. But is it satisfactory? Can not the neurosis, the subjective light of cerebral symptoms, be the cause of constipation? It is not easy to give a categorical proof of this. The disturbance, or hindrance, in respiration and circulation may find an explanation in the elevation of the diaphragm.

The cerebral circulation may be disturbed by the reflex irritation of the abdominal viscera, transmitting the irritation by way of the lateral chain of the sympathetic and the splanchnics. Leube has recently reported cases where the person became dizzy from pressure in the rectum, either by fecal masses, or by the finger. Here the dizziness arises from irritation of the hemorrhoidal plexus of nerves.

Again, Senator suggests that the absorption of certain gases, as sulphuretted hydrogen, might induce poisonous symptoms. Nothnagel suggests that in constipation ptomaines might be absorbed, inducing cerebral symptoms. But Bouchard demonstrated that toxic fecal ptomaines may occur in fluid feces, as is seen in the large amount found in the urine of patients afflicted with diarrhea. Again, the cerebral symptoms depend on the constipation. Is the argument the same with melancholia and hypochondria? Does it depend on constipation? In other words, does constipation cause, in otherwise healthy persons, hypochondria, or other psychoses? We think it does not. The proposition should be made in two forms:

(*a*) Constipation may occur in otherwise healthy persons. These, we claim, do not suffer the hypochondria and psychoses.

(*b*) Constipation occurs in patients with a neurotic tendency. These last are the subjects which suffer from melancholic psychoses during constipation. It is undeniable that psychical depression may develop during constipation in certain persons, but they are of the neurotic type, and in these the abdominal disturbance in the bowels would similarly affect (as disturbances in any other functions) the weakest point, *i. e.*, the part of the animal economy which resists the least. Single-handed and alone constipation does not create hypochondria and melancholia, but in a system burdened with neurotic tendencies, with unstable nerves, they may exist, but are, perhaps, the cause of the constipation.

Virchow says the following: "*Das bei einer gewissen erregungs fahigkeit widerstands losigkeit* (predisposition), *des nerven apparatus storhungen mit dem character der exaltation an den sensitiven und dem der depression and den motorichen nerven herrufen.*" Freely translated it is, "That by certain tendencies (non-resistance, predisposition) of the nervous apparatus disturbances of the abdominal viscera may produce the character of exaltation in the sensitive nerves, and depression in the motor nerves."

It appears to me, however, that the popular professional idea of the effect of constipation on the brain is exaggerated, and much of the belief is untenable.

The celebrated English author and physician, Dr. Barnes, held that constipation is the cause of chlorosis. Perhaps this view arises from the supposed fact that some of the chlorotic girls recovered after cathartic treatment. But, since chlorosis is a disease of a certain age, *i. e.*, from fifteen to twenty-five years, such a fact remains yet to be proved. For the constipation accompanying chlorosis constitutes but a small portion of the ailments attacked by it. Constipation and neurosis are, nevertheless, close relatives in many subjects with peculiar nervous symptoms.

The relation of the gastro-intestinal canal to other viscera is of prime importance as modifying peristalsis. The emphysematous lungs force the diaphragm distalward, and this destroys the tendency to free peristalsis. Heart, liver and kidney diseases, if they produce congestion in the bowel coats, serosa, muscularis and mucosa, will lessen peristalsis and consequent fecal motion. Diabetes induces constipation by diverting fluids from the intestinal tract, and the consequent drying of the feces. In the chlorotic and anemic it is difficult to distinguish cause and effect. They are both constipated. But the retardation of fecal movements may be followed by anemia and chlorosis, or auto-intoxication. However, chlorosis belongs to females, in general, from puberty to the age of twenty-five. It is a developmental disease. In fevers deficient peristalsis induces constipation. Excessive sweating, also, renders the feces dry, and the diminution in the amount of food taken leaves less residue to stimulate peristalsis.

Fleischer suggests that in fevers the high temperature of the blood bathing the ganglia in the walls of the bowel tends to inhibit peristalsis, and hence cause constipation.

Under sympathetic nerve influence we are not including constipation from mechanical factors, as volvulus, flexions, obstruction by peritoneal bands and through apertures, pressure from tumors, strictures, or dislocated organs. Experience teaches emphatically that enteritis, or catarrh of the enteron, induces constipation. If catarrh of the colon and enteron exists, diarrhea and constipation will generally alternate. The secretory, as well as the motor nerves, are highly involved in catarrh. Ulcerative processes in the mucosa inducing diarrhea are not included in nerve influence. We, of course, have constipation in atony of the bowel wall, as well as in partial paresis.

Bowel weakness arises in potators, tabetic and tubercular patients, and in those with progressive splanchnoptosia.

It is plain to any one that a neurosis acts in various ways on the tractus intestinalis, influencing constipation or diarrhea. The hysteric and neurasthenic both suffer from irregular constipation. It is a common observation that patients who complain of abdominal neuralgias suffer more or less from constipation. It appears as if the nerves of the bowel do not work in harmony, the bowel is incapable of regularly emptying itself. Besides, neuralgia is, doubtless, a malassimilation

of a sensory nerve, and since the sensory and motor nerves are complements of each other, they must work in harmony to accomplish an object—evacuation. The bowel contents irritate the periphery of a sensory nerve in the mucosa, this is carried by the organizing ganglia of the muscular wall, which induces muscular motion. The blood vessels of the bowel wall exert vast influence over peristalsis, and the vessels are ruled by the sympathetic nerves.

With deranged nerves of the intestines there will necessarily be deranged circulation, and either congestion or anemia induces a lowering of peristalsis—constipation. The circulation on the surface of the body is only an index of what is going on inside. Now, it is common in neurotic persons to observe a dozen marked changes in the superficial circulation in a single day. The changes of circulation affect the bowel wall in a similar way that they do the surface. The effectiveness of circulatory changes is, perhaps, best observed in the serous covering the bowel, as in peritonitis, where constipation exists. In peritonitis the bowel wall becomes edematous, congested, and the peripheral nerve apparatus is compromised by pressure and malnutrition, so that we always expect constipation in peritonitis. The circulation is deranged.

In the territory of the secretory nerves, which belong to the sympathetic, as well as the motor and sensory nerves of the intestines, a vast field lies unopened. At ordinary times secretions progress in definite proportions, but, pathologically, we have excessive, deficient, or disproportionate secretions, *e. g.*, there may be excessive bile, H Cl, gastric or pancreatic fluids, or all of these may be deficient. Again the bile may be secreted in proper amounts, so that we would have disproportionate secretion, which induces fermentation, the development of gases, tympany, and the undue development of certain microbes. If deficient H Cl, or bile, be secreted, both of which are antiseptic, microbes develop. Also, it must not be forgotten that deficiency of secretion checks peristalsis, whether it be deficiency of bile, pancreatic, or other gastro-intestinal fluids, and slowing of peristalsis invites constipation.

To illustrate the influence of nerves over peristalsis, observe how the irritation of a small fissure will induce constipation, first by abstention from stool and, second, by breaking the regular habit of stool. By forcible dilatation of the rectum the regular stool habit assumes its old course. In the case of anal fissure the irritation is purely reflex on the remaining portion of the gastro-intestinal canal. It would appear that constipation, in certain forms, may be well remedied by daily dilatation of the sphincter. This dilates and flushes its puerperal capillaries. Dr. Beer reports successes in the *Wiener Med. Blatter*, 1891, No. 25.

The complex symptoms of constipation may be indecisively divided into general and local symptoms. The general and most disastrous symptom is that of autointoxication. It represents a series of manifestations in the territory of the nervous system, whether it be chronic or acute, common symptoms or headache, dizziness and neuralgias about the abdomen, as well as sleepiness, melancholia, languor, a feeling of debility and nausea. Pick says the visible expression of the constipation is the richness of excretory principles in the urine, and the increased toxicity of the same.

One of the local symptoms of constipation is the feeling of fullness and pressure in the abdomen, which is generally distended. The passage of gas gives temporary relief. The diaphragm is forced proximalward, comprising the heart, so that it not infrequently palpitates, and the lung manifests difficulty in respiration. In certain cases considerable colic is produced at stool, from irritation of the bowel wall by hard fecal masses. The positions of local colic from expelling hardened feces are the ampulla of the rectum, the cecum, the hepatic and splenic flexures, the middle of the transverse colon, and S-romanum. Large, hard, rough fecal masses not only cause much pain, but they abrade the mucosa and finally produce ulcerations, which heal slowly.

(To be continued.)

The MEDICAL BRIEF is good from beginning to end—R. M. LITTLE, M. D., East St. Louis, Ill.

[Written for the MEDICAL BRIEF.]

A Remarkable Case of Precociousness.

BY GEORGE WEISS, M. D.,
Ragersville, Ohio.

The subject of this article was born February 17, 1901, and the photographs were taken in July, 1905. This will make the age of the child about four and one-half years. She is a member of a family of fourteen children, ten of which are living (three died of pneumonia, and one in infancy). This child is a case of infantile menstruation—the first menstruation was in June, 1901, she being then four months old, and has regularly menstruated—every four weeks—to date.

The photographs will show that the mammæ are fully developed; also she has

pubic hair, and, in fact, the child has the complete form of a girl fully eighteen years of age. Her weight is seventy pounds, and height four feet two inches. Her intellect is that of a child twelve or fourteen years of age.

This child had a slight, sanguineous discharge when she was twelve weeks old,

but her first menstrual discharge was when she was sixteen weeks old. When the mother brought the child to my office for information and advice, I examined the child carefully and found no injury or lacerations, but generative organs more fully developed than one would expect to find in a child of her age—sixteen weeks. I advised nothing to be done, as the child seemed to be in good health. At the age of twenty weeks the child was brought back, and I found the same condition, and

I diagnosed the case to be a premature child, as she had not missed a period, and had menstruated freely, every four weeks, up to the time of reporting this case.

In regard to nationality, I wish to say that the father's father came from Germany, as well as the mother. The mother's father was a Pennsylvania German, while the mother's mother came from England.

As to the environment, I wish to say that she is a member of a family living

on a farm two and one-half miles from a town, and had no associates except members of the family, and considered of good moral character. She is an exception to all the other members of the family. I was the attending physician when she was born (February 17, 1901), and while I did not weigh her, believe she was about twelve pounds, and of ordinary height, and nothing startling at birth. The weight of the father is two hundred pounds, and that of the mother two hundred and seventy-five pounds. The remarkable development of the child appeared later, and can be verified by affidavit. What will be her age at menopause and what effect will her condition have on future health?

[The above statement is, beyond doubt, the most remarkable case in the annals of medicine, and should go on record as such.—ED.]

[Written for the MEDICAL BRIEF.]

The Ideal Physician.

BY L. HERBERT LANIER, M. D.,
Martinsburg, Mo.

It is not without much reflection over past experiences and by the assistance of prolonged observation that I assume to write authoritatively upon this broad subject.

But what physician is it who does not desire to impress his patients favorably that he may continue in their good graces and merit their esteem and confidence? The answer is, all who desire to reach the top rung of the ladder in the profession.

But unfortunately for the general welfare of the medical profession too many are careless and indifferent to the demands of the laity, and some there are who are so negligent in acquiring the proper knowledge of many of the most fatal diseases and their treatment as to cause the better informed members of the profession to experience much pain and humiliation because of such inexcusable ignorance.

I think the predominating factor in rendering physicians insensible to their duties is the insufficiency of their literary attainments, and the prevailing idea among some that a physician must take a prominent part in every public gathering, regardless of the purpose for which they may meet, in order that they may become popular with all classes.

This applies more especially to practitioners in small towns, for instance. I wish to give you in detail the "doings" of one such practitioner. One fair August day, 8:30 A. M., hitch up horse, drive through town at break-neck speed, drive up to drug store, call druggist, ask him to bring some drugs, hurriedly leave town. Circle around about eight miles, come in town different direction to that in which he left, drive up to his office, get some one to hold his horse, run in and pretend to get some much-needed article, then get in buggy and leave town again, circle around and finally go home for dinner. Understand, this man who pretends to have so many patients had not actually been to see a patient at all.

After dinner he appears at his office, to find a man who receives "tips" to boost his business, waiting for treatment. This physician had just purchased a nebulizer and he placed it in the center of his reception room, which opened onto the sidewalk, and by leaving his door open and placing his patient by the nebulizer all those passing could see him when he actually had a patient. Of course they would look in when they heard the noise of the nebulizer pumped up to sixty pounds pressure.

After his heroic treatment of the patient with catarrh, he goes out to the curbstone for a seat among men who congregate to comment on the form, character and family history of every woman who passes.

Now, candidly, does the public appreciate this type of physician? No, "a thousand times no." But this allwise, self-important exponent of the medical profession has not finished his day's work. He has to treat a few more of his "boosters" and hurry home for supper in order that he may appear promptly at the opera house, where a "patent medicine show," with its usual set of infamous scoundrels, are deceiving the public and stealing their money and luring them into a sense of false security by buying their water, cochineal and alcohol—as this is the base of their cure-alls.

Now, the physician above referred to, in his eagerness to become conspicuous in all public gatherings, consented to be one of a committee of three to count the votes which had been cast for the most popular lady in town, the privilege to vote being secured by purchasing one dollar's worth of patent medicine.

Will this man ever be a success? No, he will be in the future as well as in the past shunned and ostracised by all intelligent people who are able to separate the chaff from the wheat, and this is the class of people every physician should strive to please.

The physician who is respected, admired and appreciated by the laity is one who is truthful, honest and sympathetic, one who avails himself of every opportunity to acquire all the medical skill attainable by subscribing for the leading medical journals and occasionally attending a post-graduate school, where he may learn the latest methods of treating diseases of every character.

The ideal physician to the laity is the one whose morals are good, one whose presence causes a genial, wholesome feeling of friendship and esteem, and one who never resorts to deceit or falsehoods to promote his interest, and cause to be questioned the reputation of a fellow physician; for, indeed, every word or act by a medical man is carefully considered and frequently reacts to his disadvantage.

[Written for the MEDICAL BRIEF.]

How Vaccination Should Properly be Performed.

BY F. FILLMORE BURTIS, M. D.,
Schenectady, N. Y.

At first thought, it would, doubtless, seem superflous to the mind of the average physician engaged in general practice, to call attention to the proper performance of a simple procedure so long practised by the medical profession. But, when we pause to consider that all over the civilized world there is a growing army of opposition to a practice, the purpose of which is the ultimate control of the contagious nature of a repulsive disease, it would be well for the provaccinationist to inquire into the cause for such a growing opposition, and to consider the technique of vaccination. Without a doubt, it is through a faulty performance

of this simple procedure—compulsory in many localities—that bad results are often obtained; and these examples of unfortunate complications constitute the principal basis for argument resorted to by the antivaccinationist in his campaign against a practice which furnishes one of the most striking examples of success in the field of preventive medicine.

By careful attention to the proper method of performing vaccination such results as excessive swelling and tenderness, general infection and embolism, can be greatly minimized; and, in cases where complications do follow the operation, they invariably result from improper care of the part by the patient, after the virus has been inoculated by the physician.

From a careful observation, by the writer, of the results obtained from the compulsory vaccination of the employes of two large manufacturing plants in this city, three or four years ago, and from personal experience, I would say to physicians believing in compulsory vaccination as a means of controlling small-pox, and who make a practice of their belief, "Don't draw blood."

This advice is not original with the writer. It is printed in the directions which accompany every package of virus marketed by every reputable firm engaged in the manufacture of vaccine virus. But do physicians always follow this advice, or exercise the care which should be taken in scarifying the skin so that blood will not appear?

More than one physician in general practice has at some time or other witnessed the symptoms following a hypodermic injection, which, instead of being administered subcutaneously, has been injected into a capillary of the inner layer of true skin above the subcutaneous area. These symptoms exhibit, to a marked degree, the instantaneous absorption by the blood of a remedy injected directly into it and the concentrated action of the drug, in contrast to less rapid and less concentrated action when absorbed and attenuated by the lymphatics of the subcutaneous space.

This rapidity and concentration of action of direct blood absorption, and the attenuating influence of the lymphatics, should ever be borne in mind by the physician when performing vaccination; and care should be taken to see that the virus is not inoculated into the system directly through the blood itself.

In those cases of complications following vaccination, which came under my observation after the wholesale vaccination of the employes of the two great plants in this city, I found that each one had been inoculated directly into the blood. And this fact has been proved in my own practice. Where blood was not drawn in scarifying, the results were uniformly satisfactory, and aside from the distinct local sore which resulted, no complications of any nature followed. But, in the cases where blood was drawn, and the virus inoculated directly into it, there followed invariably excessive swelling and tenderness of the parts, and in some instances a general infection, which gave rise to symptoms of considerable concern.

Therefore, I would say again, when you vaccinate, "Dont' draw blood."

Scarify the skin carefully until only the lymph appears through the scarified area. Rub the virus gently, but thoroughly, into the exuded lymph and, after allowing it time to dry, adjust some sort of protecting shield over the vaccinated area. Absorption and attenuation of the virus will occur through the lymph channels and, in a few days, if the virus take, there will appear a round, well-defined, healthy-looking sore, presenting no complications, and needing only the ordinary treatment of cleanliness and protection from the clothes to terminate in a successful vaccination.

153 Barrett Street.

[Written for the MEDICAL BRIEF.]

Application of Electricity in Cases of Chronic Urethritis and Cystitis.

BY EVERARD DUGAS RICHARDSON, M. D.,
Atlanta, Ga.

What shall we do for cases of chronic urethritis, with the proverbial last drop, and also cases of obstinate cystitis due to the gonococcus and other causes that we all meet with so frequently.

In order to understand the treatment that I have employed in these cases, a thorough understanding of the anatomy

of these parts is necessary. In Fig. 1, it can be easily seen that the gonococcus, having gained admission into the urethra, burrows into the crypts and follicles, into caput gallinaginis, into the orifices of the prostatic ducts, into ejaculatory ducts, thus into seminal vesicles and testes, causing seminal vesiculitis and orchitis, and into bladder, causing cystitis; and, after the acuteness of the inflammation has subsided, the mucous membrane lining the numerous openings is left in a depraved condition. The gonococcus has lost its virulence; but, at the same time, it is capable of setting up an acute urethritis in another individual. We now

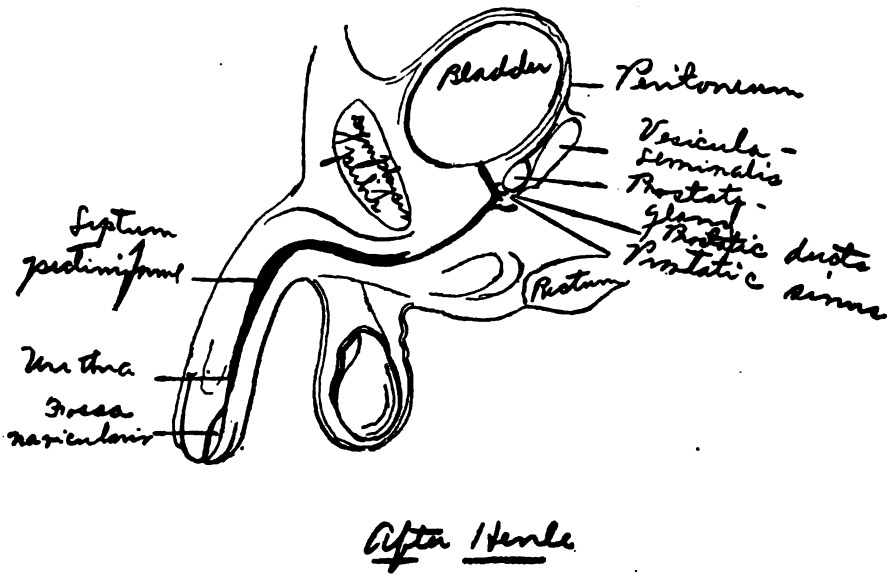

FIG. 1.

have in this condition the well-known train of symptoms due to this subacute, or catarrhal inflammation going on.

It is in this condition that I employ the aid of the well-known physiological and chemical effects of the galvanic current. Though we know so little of the *modus operandi* of the action of electricity, I am inclined to believe that the action of the positive electrode is to cause evolution of oxygen and deposit of acid radicals. The tissues are dried and the blood vessels contracted. It has a sedative effect on the nerves, and the deposit of salts at this pole has a germicidal effect. On the other hand, the current from the negative electrode causes a liquefaction of albumen, and a deposit of alkalies and bases. If action is too strong or continued too long, an eschar will result. There is, also, a general tonic effect of the parts through the stimulation of the nerves, and increased blood supply through dilatation of the blood vessels. Thus we see that the action of these two poles is almost opposite in effect, and that as to which pole is introduced is governed entirely by the condition found in that especial case. In order to illustrate the treatment that I have found of great help to me in this class of cases, in Fig. 2, it will be seen that (A) is a simple twenty-cell galvanic battery, with a large sponge (B) attached to one pole. This sponge is then placed on lumbar plexus. This wire can have two sponges attached, the other placed on abdomen. This is done in order to divide the current, some going through lumbar plexus, and some through nerves distributed on abdominal wall. I then have a screw-hole cut in handle of sound (C) with an attachment (D) that can be readily unscrewed to permit of easy sterilization; then a small piece of rubber tubing (E) is placed on sound where the meatus comes in contact with the sound, to insulate instrument at meatus. This sound is attached to the other pole, as the con-

dition indicates, and passed into bladder. Thus, we get the effect of the current on the entire urethral tract. This current, also, has almost a stripping effect on the seminal vesicles. I begin with one cell and increase to six, the first treatment lasting about ten minutes. The second treatment, which is given on the third day (and treatments are continued every other day), is increased up to about ten to twelve cells, according to the idiosyncracies of the patient. In some cases this treatment will excite a mild, acute inflammation, but this is easily controlled with irrigation of potassium permanganate, one to four thousand, and will have no deleterious effect.

For cases of chronic cystitis, without the accompanying urethritis, I have the attachment seen in Fig. 2, which consists of a simple rubber catheter (B), with a copper wire (C) placed within, and attached to one pole by wire (A). The bladder must be first emptied and then filled with water through catheter. The water in bladder transmits current to bladder walls, the other pole resting on lumbar plexus. My results in the treatment of this class of cases has been, so far, very satisfactory, and, owing to the fact that so little has been accomplished by other modes of procedure to relieve these cases, that I think a thorough trial of this method should be given before condemning these patients to carry this disease the rest of their lives, to say nothing of infecting others, and thus causing untold suffering to humanity. Below, I give a history of a few cases I have treated by this method:

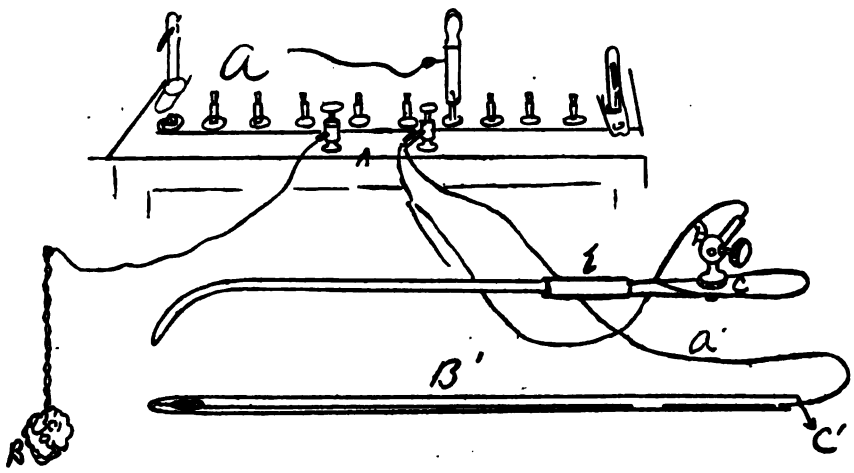

FIG. 2.

Case 1.—Clerk, American, male, twenty-nine. Family history negative. First contracted gonorrhea in fall, 1893; came to me six months ago, complaining of impotency, shooting pains in rectum, loss of semen at stools, and no discharge from penis; otherwise excellent health. Sound attached to galvanic battery passed every other day, treatment lasting ten minutes. After two weeks' treatment, acute urethritis developed, lasting four days, that readily yielded to irrigations of permanganate of potassium, one to four thousand. Otherwise made an uneventful recovery after two months' treatment. Parts now normal as to functions and symptoms.

Case 2.—Clerk, American, male, thirty. Family history negative. First contracted gonorrhea two years ago. Came to me complaining of pain in perineum, and slight discharge occasionally, otherwise healthy. Diagnosis made of chronic urethritis and seminal vesiculitis, with some enlargement of prostate. Treatment with galvanic battery every other day begun, also stripped vesicles twice each week. During fourth week of treatment patient developed severe pains in rectum and followed by profuse discharge for two days, which yielded to irrigation, and

treatment continued with uneventful recovery. During two days' discharge, patient must have had an abscess formation in prostate which ruptured in urethra.

Case 3.—Clerk, American, male, twenty-seven. Family history negative. Came in complaining of occasional discharge after dissipation and coitus, otherwise healthy. Prostate, vesicles and bladder found normal. Treatment instituted with galvanic battery, and patient dismissed after two months' treatment; since which time he has had no return of symptoms.

[Written for the MEDICAL BRIEF.]

Treatment of Pneumonia.

BY J. A. BURNETT, M. D.,
Cecil, Ark.

Pneumonia is a common disease, and most physicians do not know how to treat it successfully. It is a very dangerous disease when it is not treated right.

In my opinion asclepias is the most important remedy in the treatment of pneumonia. It should be given in doses sufficient to arouse secretions. In most cases it will be best to combine it with lobelia and zingiber, as these agents will assist the diaphoretic and relaxing effect of asclepias.

The dose of lobelia should be small, so as not to cause nausea.

These remedies act best when given by infusion, unless a very reliable preparation is used. If there is nervousness and restlessness, scutellaria should be added to the above compound. When the liver is torpid drastic cathartics should not be given, as they do more harm than good. Mild hepatic stimulants is all that is needed, and for this purpose I have found nothing equal to chionanthus. It will clean a coated tongue slowly, but surely, without any bad effect from its use.

Podophyllin, when triturated with sugar of milk (one to one hundred) is also a good liver stimulant.

If the bowels are constipated use an enemeta. And for this purpose an infusion of boneset is better than water alone. There are various remedies which can be used to control the cough, such as lobelia, sanguinaria, and many others.

A good plan is to be sure you give nothing that will injure the patient. A mixture of ground mustard seed, one part to five or seven parts of wheat flour, with a little water, or weak solution of vinegar, can be applied over the pain to relieve it. It will not blister, and can be kept on almost constantly. A mixture of turpentine and lard is also good as an external application.

When the heart needs sustaining, cactus should be used. It is the best heart tonic and sustainer in the *materia medica.*

If a physician will be careful in what he gives his patients, and they are properly nursed, pneumonia can be successfully treated.

Amphiachyris dracunculoides, and corallorhiza odontorhiza are two important drugs in the treatment of pneumonia. They are not very well known to many physicians, but that does not lessen their value. They should not be overlooked in this, as well as many other diseased conditions.

[Written for the MEDICAL BRIEF.]

A Good Purgative.

BY J. A. BURNETT, M. D.,
Cecil, Ark.

Many patients do not like to take purgatives, as they are not well tolerated, and for this class of patients no remedy is superior to a genuine preparation of chionanthus, a drug which requires experience of a pharmacist to manipulate, and is a reliable hepatic stimulant without purgation.

SPOKANE, WASH., April, 1906.

The North Idaho Medical Society will hold its next meeting at Coeur d'Alene City, Idaho, June 19, and will be followed by a half day spent at the handsome new St. Luke's Hospital, a Protestant institution in Spokane.

[Written for the MEDICAL BRIEF.]

Psychology and Cat Fear.

BY A. A. LINDSAY, M. D.,

Principal St. Louis College of Suggestion.
St. Louis, Mo.

In that excellent symposium in the *Ladies' Home Journal* of March upon the subject of persons having the mania, the fear of cats, the history gathered by Dr. Weir Mitchell seems to account for everything desired except as to how an individual becomes aware of the presence of the animal when he has not seen or heard it or been informed by another that there is the "horrid creature" near.

The science of psychology through its laboratory discloses the sought-for explanation which careful study of the objective means made by those correspondents of Dr. Mitchell could not reveal.

The larger world, even under the present form of existence, is, in the main, never appreciated, except in a cursory way, by the average individual, because it is subjective, and only a small percentage of people have that blending between the conscious and sub-conscious that will bring the sub-conscious to the threshold of sense understanding; so rare indeed is this gift that for the most part we never know that soul has a life and fulfills functions that determine all of our so-called involuntary life.

Psychology, in its practical new form, considers man's intuition as perfect as is that attribute we call instinct in animals, and this would grant the possession of knowledge acquired without the necessary functions of the senses as commonly known and purely objective. Inspiration (soul or spirit making its holdings known to the conscious mind) is not confined to the subject of man's attitude to spirit, his religious relations, but may include every phase of man's life.

This lesson can be made plainer by proceeding at once to the ameba, in the study of which we find it showing to recognize its friends and enemies. It is only a one-celled clump of undifferentiated protoplasm, yet it chooses its course with respect to success and failure, and it may engage in combat with some other form of animal, but if it gets the worst of the conflict it intelligently avoids that particular antagonist thereafter. It selects its food but will repeat none of its mistakes when it fails to get around something not adapted to it.

There are many species of single celled animals and many of multiple cells before we come to those with brain organisms and possessed of objective senses as we know them, and yet mind is in evidence and knowledge in them is like much that is demonstrated by human beings, whether infants or adults.

I have stated that the ameba in the illustration is but a single cell, and it, in addition to its inherent knowledge, makes use of experience, all of which is independent of the senses as we are taught to define them.

The ameba is a single cell with intelligence therein, man is an aggregation of cells with intelligence in every cell, and through the mind in the cell each cell knows its individual enemy, as well as it also knows the enemy or friend of the complete organism, the man.

I will introduce you to the psychic life of the cell of animal tissue, which makes apparent some of the parallelisms between the individual cells, whether they are in man or ameba.

Examine under microscope a cell taken from muscle, nerve, brain, or bone, or blood, or any other animal tissue you please, by placing within the field the cell and the smallest portion of nitro-glycerine. You will observe the cell removing itself with all of its powers of locomotion away from the intense stimulant mentioned—yet separated from its fellows it needs the aid of stimulation.

Instead of the above, use capsicum, just as great a stimulant, and the microscopic cell will weave itself into touch with that which is friendly to it, for the capsicum is not poisonous in the ordinary sense, while nitro-glycerine is. As frequently as you are pleased to test this live cell experiment, you will find it holds true that discrimination between the sanative and the poisonous agencies is evident.

I see even without considering the data to prove it that the psychic life of the man in his entirety should be as perfect as that microscopic constituent is. If we grant that, then we have the solution as

to how a man knows his enemy, whether near to him or far from him, and that it is psychic or soul knowledge obtained through the psychic sense, and may or may not ever be made known to the objective sense, consciously.

Then I have this to say, the individual who has the fear of the cat knows of the presence of the animal through the psychic senses, or, as I prefer to say, by that power of the soul to perceive all that concerns the individual in any way, and it will not aggravate me in the least if, in order to understand this, you should think the psychic senses correspond with the objective senses, only the former are exalted.

Now, many of my contemporaries who have only had the experience in the psychological laboratory, would say that the presence of the cat was made known to the one who had the mania but had not seen or heard it, through the telepathic communication of one who had, and this would be very possible in many instances. Others would say that it having been proven amply that there is thought transferrence between man and animals, and which I know to be true, that that would account for the phenomenon in those instances where no person knew the feline was about. This latter explanation would pass were we not possessed of a large psychological and physical laboratory experience, which shows that a man or woman has just as perfect information of environment as pertaining to things inanimate as of things possessed of life as we usually understand it.

This knowledge of environment not only applies to just the things surrounding the individual at a certain moment, but it comprehends environments to come, even involving the placing of objects that no one has at that time objectively planned.

Many of my sensitives have psychically seen and felt the snow falling, or the rain, and also felt the latter many days before the occurrence. My psychics see the changes in tissue, feel the symptoms of diseases that have not at that moment commenced, but that I find in some patient I meet later. This sort of a sensitive hears music that he or I may not objectively hear for many weeks to come. My experience has convinced me that we all have the soul knowledge, whereas only the exception has that blending between the subjective and the objective that permits the practical and conscious knowledge of the department of soul.

Without some unusual means of observation it is difficult to appreciate there can be a sense of seeing exceeding the capacity of the physical eye, or that we here and now have a soul quality to discern or interpret, for want of better terms, sounds, odors, tastes, sights, or to feel that which the objective can take no account of. I have opened to view a little of my laboratory in which things usually mystical are plain and practical and things scientific are thus tabulated, and this experience and collation of data would assure one that any individual, whether he fears a cat or not, or whether or not the cat were alive or a toy, knows in his soul or sub-consciousness the presence of the object, whether any other individual or himself have discerned it objectively or not, for all the scientific experience of this writer shows the inherent function of the soul is to perceive, and it seems to be omniscient.

3962 Morgan Street.

[Written for the MEDICAL BRIEF.]

The Present Treatment of Diphtheria.

BY PROFESSOR BOURGET, M. D.,
University of Lausanne,
Switzerland.

The sensational publications of Behring and Kitasato (1890), the confirmation of their investigations through Roux, and their practical clinical application in 1894, gave rise to the general conviction that at last a specific remedy for diphtheria had been discovered. All former methods of treating this disease were discarded, and at the present time nobody gives a thought to the discussion of their special value. Indeed, the modern physician no longer believes in the local treatment at all. He is satisfied with a subcutaneous injection of ten, twenty, thirty or more cc. of diphtheria serum, and quietly awaits the result. As to the effect, he allows no doubt to enter his mind. Should, however, no cure take place, he is protected from reproaches, because experts

as well as laymen firmly believe in the unquestioned specificity of the diphtheria serum, not only as a remedy, but also as a prophylactic.

Since 1894 I, too, followed the trend of the times, and never failed to inject all cases of faucial diphtheria which came to me for treatment. As a cautious man, however, who likes to remain true to his habits, I nevertheless continued local treatment, the details of which I will presently explain. However, instead of applying the same every two hours, I only did so in the morning and evening. I was a confirmed devotee to the serum method, and applied the same even in the case of my own child, who was taken ill with diphtheria.

Occasionally, however, it happened that for some reason or other I delayed the serum injection; for instance, when the coating and general symptoms were only slight, and in these cases my patients recovered with no other treatment but painting and cleansing of the pharynx. I also deferred injection in certain cases where there was renal insufficiency on account of nephritis, and where I was apprehensive of an unfavorable effect of the serum upon the renal epithelium.

Frequently I had also occasion to observe a complete change of the coating within one day. I have often noticed how entire layers became spontaneously loosened in patients who had not been treated by injections. No doubt this favorable effect would have been attributed to the serum, if an injection had been made. Precisely similar manifestations were noticed every year in cases which had, and also in cases which had not, been treated with serum. Gradually then I again attached increased importance to local treatment, reserving the injection method for more serious cases.

When, in 1903, the hospital service was newly regulated, including the engagement of a better and more reliable staff, local treatment was rigorously and conscientiously applied. Ever since then the occasions where I had recourse to the serum, steadily diminished in frequency; thus, in 1903, I injected it only four times, in 1904 once, and in 1905 once. There were two fatal cases in 1904, which require an explanation. One of the cases arrived in a moribund condition, and died a few hours after admission. The other case suddenly succumbed to paralysis of the heart fourteen days after admission. All local manifestation had disappeared since eight days.

The total number (five hundred and forty-seven) of the cases is not large enough to admit of extensive conclusions, but it should be taken into account that they were serious cases. As a matter of fact, only the most desperate cases which can not be treated at home are sent to the isolation pavilion of the hospital.

TABULATED SURVEY.

Year.	Treated Without Injection.		Treated With Injection.		Total.
	Cures.	Deaths.	Cures.	Deaths.	
1899	64	0	25	1	90
1900	71	0	47	2	120
1901	68	0	59	5	132
1902	55	0	29	5	89
1903	32	0	4	0	36
1904	39	2*	1	0	42
1905	36	0	1	1	38
	365	2*	166	14	547

* One patient died on day of admission.

One patient died of paralysis of the heart fourteen days after admission.

The bacteriological diagnosis was made in each case without exception. Immediately upon admission into the clinic, patients have their fauces painted with the following solution:

℞ Liquor Ferri Sesquichlorati..... 2.0
Alumin. Crud. Pulv..... 2.0
Acidi Borici..... 2.0
Glycerini.....20.0
M. Ft. solution.

The cleansing is done as completely as possible by means of small mounted cotton tampons, which are thrown away after each application.

The ferric chloride solution effects coagulation and shriveling of the pseudomembranes, which can be easily raised. With each application five or six paintings are given, whenever the gums and tonsils require careful cleansing.

A few minutes later the patient gargles with the following mixture:

℞ Tinct. Retanhiæ.....50.0
Tinct. Guajaci.....50.0
M. Two teaspoonfuls in a glass of warm water and gargle.

This treatment is repeated every two hours, or in severe cases every hour.

After a very short time the patient experiences considerable relief, so that he voluntarily asks for the treatment.

Frequently the temperature decreases already on the second day, sometimes only on the third or fourth day. In these cases, and also when an improvement of the clinical symptoms is noticeable, we do not inject the serum. We never give antipyretic medicines.

Although the bacteriological examination is necessary, we have, nevertheless, observed for a long time past that the number and species of the micro-organisms are not of great significance to determine the character of the disease. In other words, the bacteriological examination does not help us in the prognosis. We have seen severe cases of diphtheria with very few Lœffler bacilli and, again, slight cases of diphtheria, which developed in three or four days, where both long and short Lœffler bacilli were abundant.

In order to establish the diagnosis, and to form an opinion as to prognosis, we have, therefore, to base ourselves chiefly upon the clinical symptoms. The reaction on different kinds of infections, caused through micro-organisms, is probably an individual peculiarity.

My object in publishing these observations is by no means to bring the serum therapy of diphtheria into disrepute, but merely to point out that the question of specificity of this serum is by no means decided. The investigators who are occupied with this question use their best endeavors to prove by their theories the beneficent result of the serum. But, up to the present, they have demonstrated nothing. Frequently enough their theories are as complicated as those of homeopathy. Every theorist invents a new expression to describe the efficacious substances of these organic fluids. But with all these ingenious and alluring names the question has not been brought one step nearer its practical solution. All these new designations, such as toxins and antitoxins, toxones, bodies and antibodies, toxoproteins, toxalbumins, etc., or artificial geometric pictures, which explain the fixation of these toxins by side-chains, will never contribute to the solution of the problem of infection and immunization. Countless books have already been filled with these untenable theories, while the clinic—contrary to what was hoped—has not derived any benefit from these dissertations. It is just in regard to diphtheria that we must base ourselves upon nothing but clinical symptoms.

In all probability we can only hope for further progress after we have succeeded in positively isolating these multi-named bodies, and in retaining their chemical and physiological properties. We are aware that numerous investigators are diligently busy trying to isolate these toxic substances, and we clinicians commend them for their zeal. We remind them that to the practitioner the smallest discovery of practical importance is of greater value than all those beautiful theories. For this reason I have not hesitated to utter a discord among the many laudations in praise of the curative properties of the diphtheria serum, and I do not mind asserting that the latter does not possess the specific curative properties with which it is credited. While we listen to the dogma of the specific curative effect of the diphtheria serum, we must not allow our watchfulness to become dormant. That question will, in reality, not be solved until physiological chemistry shall have succeeded (as was the case once with the alkaloids) in isolating these problematic substances, as this will admit of more reliable chemical and physiological experiments.

[Written for the MEDICAL BRIEF.]

Climate a Cause of Complexion.

BY SILAS HUBBARD, M. D.,
Buffalo, N. Y.

I see that some eminent writers are saying that dark, cloudy climates, or regions, are causing the inhabitants to have light complexions, blue eyes and light, or blonde hair, and, *e. g.*, that sunny climates, like Italy and Africa, are causing the people there to have dark complexions, and that it is very unhygienic for these northern people of light complexions and blonde hair to go south and dwell in a sunny climate. I will say that the injury comes from unacclimation, and breaking up of old habits. I will say that a native southern person with a dark complexion, mov-

ing north, is very liable to have pneumonia, phthisis, etc., which he would not have had had he remained south in his native southern climate and, likewise, *e. g.*, the Scandinavians moving south into a sunny climate soon experience nervous, bilious, and malarious diseases.

The Scandinavians, for the most part, have blue eyes and light complexions, and blonde hair. For ages the Scandinavians have largely been fishermen and sailors. The perpetual sight of the blue ocean and sky, and their six or eight months of snow, and blue ice, has had somewhat the effect on their complexion and color of their eyes that the environment of the chameleon has on its color, which with the chameleon is very temporary, if removed from its color environment, but it would require generations in a southern climate to change the complexion of the eyes, hair and skin of the Scandinavian; but, nevertheless, they all would be changed after a number of generations in a southern, sunny latitude.

The Ethiopians were probably the first human inhabitants of the earth. They, being under the equator a hundred thousand years, also the similidæ there are black, while the lion and other nocturnal animals there, coming less under the influence of the sun, are of a different complexion, but the human beings, having spread themselves over the whole face of the earth, have changed their complexion, according to the latitude and longitude of their nativity. The negroes and gorillas of their native land have a large volume of lungs and broad nostrils, so that they can take in a large volume of rarefied air, while the Caucasians of the temperate climates have comparatively narrow nostrils and narrower lungs, so that they shall not take in too great a volume of dense, heavy air of the temperate and arctic climates. These white people transferred in the native climate of the negro do not get sufficient air to sufficiently oxigenate the blood; therefore, they get malaria, yellow fever, and various other diseases, of which the native negro is comparatively exempt; while, on the other hand, when the negroes are transported to the temperate climates they too readily get too great a volume of dense, heavy air, more than is necessary for their new environment, consequently they get pneumonia and other lung diseases oftener than do the Caucasians in the same temperate latitude.

The sea-faring lives and prolonged snows of Scandinavia, England, Ireland, Russia, Germany, and the temperate coasts of America, require that the eyes, hair and skin should reflect much of the reflected light of the snow, water and ice; therefore, the color of their eyes, hair and skin is continued comparatively light, for light complexions reflect the light, and dark complexions absorb the light.

Some speculators are saying that the inhabitants of the United States will become dark complexioned. I will say that only those who live interiorly and in the Southern States will grow darker, while there will be a regular gradation of the complexion of the people from the Southern States to the Arctic regions north, if they are not nomadic, and that the quantity of the snow, light and heat and cold will have much to do with the difference. Much snow and ice, and water and cold producing lightness of the complexion, and much heat and sunlight and shade producing dark complexions.

The Jews are of one and the same nationality. Their complexions are comparatively light in the arctic and temperate regions and grow much darker in the equatorial regions.

All these causes which I have named affect the complexion of animals, as well as men.

60 Soldiers Place.

[Written for the MEDICAL BRIEF.]

Evolution of the Brain.

BY SILAS HUBBARD, M. D.,
Buffalo, N. Y.

I would like to inquire of anybody, or everybody who knows, whether the number of the convolutions of the brain are equal in number of the savage, the barbarous and ignorant man, the educated and enlightened man, or does the difference merely consist in the educated and enlightened man possessing greater depth and prominence of the convolutions and more gray matter?

Medical Examination, College Department University of the State of New York.

Answer any ten of the questions on this paper, but no more. Check the number (√) of each one of the questions you have answered.

ANATOMY.

TUESDAY—9:15 A. M. TO 12:15 P. M., ONLY.

1. Mention the sutures at the vertex of the skull and state what bones they connect.
2. Describe the os hyoides.
3. Mention and describe the ligaments of the hip joint.
4. Give the origin and insertion of each of the muscles in the auricular region.
5. Describe the pulmonary veins and state in what respects they differ from other veins.
6. After ligation of the common carotid artery how is collateral circulation established?
7. Mention the muscles supplied by the following cranial nerves: (*a*) motor oculi, (*b*) trochlear, (*c*) abducent.
8. What are the sebaceous glands and where are they most abundant?
9. Into what principal parts is the brain divided? What is the average weight of the brain in the adult male?
10. Describe the cricoid cartilage.
11. Describe the tendo-Achillis.
12. Give the structure, course and relations of the spermatic cord.
13. What is the composition of intervertebral substance? What part of the spinal column is formed of intervertrebral substance?
14. Describe the anatomic divisions of the alimentary canal.
15. A bullet enters the body at the left nipple, and has its exit between the ribs in a line directly opposite the point of entry; mention the tissues that would be pierced.

PHYSIOLOGY AND HYGIENE.

TUESDAY—1:15 TO 4:15 P. M., ONLY.

1. Describe the formation of lymph. State the function of lymph.
2. Describe the nerve arrangement on which the sense of touch depends.
3. What are the physical and the chemical properties of muscular tissue? What changes take place during muscular action?
4. Compare the functions of the gray and the white matter of the brain.
5. State in detail the functions of (*a*) the saliva, (*b*) the bile, (*c*) the succus entericus.
6. Give the physical and the chemical character of glycogen, and state what is known regarding its origin and function.
7. Describe the normal heart sounds.
8. State the origin of fat in the body.
9. How is the descent of the testicle into the scrotum accomplished?
10. Indicate a proper diet in a case of (*a*) diabetes mellitus, (*b*) obesity, (*c*) early convalescence from typhoid fever.
11. Give the detailed procedure for disinfecting a public conveyance, after the removal of a case of small-pox.
12. Mention the precautions as to food and drink that should be observed by those forced to work under the direct rays of the summer sun. State why these precautions are necessary.
13. What diseases ordinarily render the subject immune from subsequent attacks?
14. What means should be employed under public health administration to prevent the spread of tuberculosis?
15. State in detail the proper functions of a municipal medical inspector of schools.

CHEMISTRY.

WEDNESDAY—9:15 A. M. TO 12:15 P. M., ONLY.

1. Give the name, symbol and valence of each of ten elements, and write the formula of a principal compound of each.
2. Define and illustrate (*a*) analysis, (*b*) synthesis.
3. Describe the construction and explain the operation of the oxyhydrogen blowpipe.
4. What percentage of CO_2 exists normally in the atmosphere? What percentage of CO_2 in the air that we breathe would constitute (*a*) danger to health, (*b*) danger to life?
5. Give the physical properties of chlorin. With what element does chlorin most readily combine? What are the medicinal uses of chlorin?
6. Describe a process of making nitric acid. State the action of nitric acid on animal matter. Give the treatment of nitric acid poisoning.
7. How is spiritus etheris nitrosi (sweet spirit of niter) prepared?
8. Give two tests for recognizing the presence of sugar in urine.
9. What is an alkaloid? Give five examples of alkaloids.
10. Mention the important medical derivatives from coal tar.
11. State the usual chemical composition of urinary calculi. What tests will determine the composition?
12. What is the faradic current? How is the faradic current produced?
13. In what principal form is nitrogen eliminated from the human body?
14. Mention the important physical, physiologic and chemical properties of ptomains.
15. Complete the following equations:

$$H_2SeO_3+2SO_2+H_2O=$$
$$3Cu+8HNO_3=$$

SURGERY.

WEDNESDAY—1:15 TO 4:15 P. M., ONLY.

1. Give a classification of tumors conforming to the types of fully-formed connective tissue.
2. Describe carbuncle and give its complications, symptoms and treatment.
3. What are the indications for resection of the knee joint? Enumerate, in order of use, a list of instruments for resection of the knee joint.

4. Give a classification of incomplete fractures and describe one form.

5. Mention in order of occurrence four of the most commonly observed complications of dislocations.

6. Give the symptoms and treatment of chronic synovitis.

7. Describe contracture of the palmar fascia (Dupuytren's contraction) and give treatment.

8. Mention the varieties of hemorrhage. Describe the treatment of each variety.

9. Give the causes of retention of urine.

10. Describe an operation for the radical cure of inguinal hernia.

11. Give the indications for anus preternaturalis. Describe the operation.

12. Give, in detail, the preparation of the patient for trachelorraphy. Give technic of operation.

13. Describe suppurative inflammation of the tympanum and give the causes, symptoms and treatment.

14. Describe hypertrophy of the tonsils, and give treatment.

15. Describe lupus vulgaris, and give treatment.

OBSTETRICS.

THURSDAY—9:15 A. M., TO 12:15 P. M., ONLY.

1. Give the measurements and capacity of the virgin uterus. What changes in the uterus are caused by pregnancy?

2. What is the physiology of impregnation, and by what processes is it effected?

3. Give the signs, symptoms and differential diagnosis of pregnancy during the first trimester.

4. What is understood by the hygiene of pregnancy? Give a few established rules to be observed.

5. State the dangers of anemia during pregnancy. How is a diagnosis made, and how should such a condition be treated?

6. Define ectopic pregnancy, state its varieties, and give its management.

7. Give a brief description of the formation of the placenta. State the functions of the placenta.

8. Give the diagnosis of threatened abortion, and describe the prophylactic treatment of this condition.

9. Describe the preparation of the patient for the first stage of labor.

10. When should anesthetics be employed in labor, and how should they be administered?

11. Give the causes, symptoms and treatment of cystitis in the female.

12. Define vulvitis, and give its causes, symptoms and treatment.

13. What is the uterine curette? Describe its uses and dangers.

14. Describe the genupectoral posture, and mention some of the purposes of its employment.

15. What are the dangers of imperforate hymen after puberty? What should be done to relieve this condition?

PATHOLOGY AND DIAGNOSIS.

THURSDAY—1:15 TO 4:15 P. M., ONLY.

1. Describe the technic of demonstrating the presence of the gonococcus in a urethral discharge.

2. What tissue changes occur in the kidneys in chronic interstitial nephritis?

3. Describe the healing of fractured bone.

4. What secondary changes take place in the heart in chronic mitral regurgitation?

5. What is the pathology of tabes dorsalis?

6. Describe the pathologic changes in ulcerative stomatitis.

7. Through what avenues do bacteria enter the system, and how may they be eliminated?

8. State the pathology of pernicious anemia.

9. Under what conditions is uric acid increased in the urine? Give the symptoms of uremia.

10. Give the characteristic symptoms of influenza (grip), and mention some of its important complications and sequels.

11. How is knee-jerk demonstrated? Give the diagnostic significance of absence of knee-jerk.

12. What are the cardinal symptoms of inflammation, and how is each symptom pathologically explained?

13. What are renal casts? How are renal casts recognized, and what is their clinical significance?

14. From what artery does cerebral hemorrhage most frequently occur? Differentiate cerebral hemorrhage and opium poisoning.

15. Give the early and the progressive symptoms of acute cerebral meningitis in infancy.

THERAPEUTICS, PRACTICE AND MATERIA MEDICA.

FRIDAY—9:15 A. M. TO 12:15 P. M., ONLY.

"... in therapeutics, practice and materia medica, all the questions submitted to any candidate shall be chosen from those prepared by the board selected by that candidate, and shall be in harmony with the tenets of that school as determined by its State Board of Medical Examiners." Laws of 1893, chapter 661, section 146.

Questions prepared by the Board of Examiners representing the Medical Society of the State of New York.

1. Mention three alkaline remedies. Describe the therapeutic uses of alkalis.

2. Give the symptoms and prognosis of degeneration of the suprarenal capsules (Addison's disease).

3. Mention the ingredients of Donovan's solution, and state the proportion of each ingredient.

4. Give the therapeutic uses of olive oil.

5. Give the clinical history of herpes zoster.

6. Describe the symptoms of poisoning, acute and chronic, by tartar emetic.

7. Compare the physiologic actions of tincture of digitalis and infusion of digitalis on the kidneys and on the heart.

8. Mention the varieties of stricture of the esophagus, and give the treatment of each variety.
9. Mention the official preparations of guaiac, and state the dose of each.
10. Give the therapeutic uses of hydrogen dioxid.
11. Define leucemia, and give its symptoms and treatment.
12. Give the sources of strychnine. Mention the other alkaloid obtained from the same sources.
13. State the chemical and the therapeutic differences between boric acid and borax.
14. Give the etiology and treatment of scorbutus.
15. State the adult dose of (*a*) tincture of cantharides, (*b*) tincture of colchicum seed. (*c*) atropin sulfate.

THERAPEUTICS, PRACTICE AND MATERIA MEDICA.

FRIDAY—9:15 A. M. TO 12:15 P. M., ONLY.

Questions prepared by the Board of Examiners representing the Homeopathic Medical Society of the State of New York.

1. Name three remedies indicated in hematuria, giving the indications for each.
2. Differentiate aconite and spongia in croup.
3. Give the symptoms of iodin in pneumonitis.
4. Give the symptoms and treatment of carbuncle.
5. Differentiate iritis and glaucoma, and give the treatment of each.
6. Give the throat symptoms of causticum and phosphorus.
7. Describe the treatment of gonorrhea.
8. Describe the homeopathic treatment of syphilis.
9. Differentiate the hemorrhages of hamamelis, ipecacuanha and sabina.
10. Give the treatment of facial erysipelas.
11. Differentiate the colics of dioscorea and colocynth.
12. Give the stomach symptoms of antimonium crudum.
13. Give the symptoms of silicea in abscess. After what drugs is it frequently indicated?
14. Give the symptoms, and the homeopathic treatment of sunstroke.
15. Give the treatment of punctured wound of the foot.

THERAPEUTICS, PRACTICE AND MATERIA MEDICA.

FRIDAY—9:15 A. M., TO 12:15 P. M., ONLY.

Questions prepared by the Board of Examiners representing the Eclectic Medical Society of the State of New York.

1. Give the treatment of a case of acute indigestion.
2. When is a combination of quinine and capsicum indicated?
3. Describe small-pox and give its treatment.
4. Give the symptoms and treatment of purpura hemorrhagica.
5. When is gelsemium specifically indicated?
6. Give the specific indications for the use of pulsatilla. State the doses of pulsatilla.
7. What remedies are used in acute alcoholism?
8. From what is codein prepared? Describe the uses of codein.
9. Give the treatment of a case of habitual constipation.
10. Give the treatment of a case of poisoning by carbolic acid.
11. Describe the cause and give the treatment of renal colic.
12. When is bryonia indicated? State the doses of bryonia.
13. Give the symptoms and treatment of acute gastritis.
14. Differentiate cancer of the stomach and ulcer of the stomach.
15. State the complications that may arise in typhoid fever.

[Written for the MEDICAL BRIEF.]

Differences in the Management of Labor.

BY R. J. DARRAGH, M. D.,

Vienna, Ontario, Canada.

Dr. Boynton, Smithfield, Utah, advocates the employment of enemas in labor. Certainly if the woman's bowels need unloading an enema such as he recommends would be very useful and appropriate, but if she has had good use of bowels, not required. And as to his dilating the cervix and vagina with his hand to avoid the use of the forceps, I confess I can not see the point. The forceps are never needed to secure the passage of child through the cervix of vagina, but through the bony outlet, and if it is a case calling for the use of the forceps, no matter how long he keeps his hand in the vagina it is not going to overcome the difficulty. If he will only look up his physiology and anatomy, he will, I think, agree with me.

Please continue to send me the BRIEF. I have practiced for nearly ten years, and during that time the BRIEF has been a welcome visitor every month. It would be hard for me to get along without it. When we want a little practical help, it is the BRIEF that so many of us consult first, and we are seldom disappointed. Enclosed find one dollar for a renewal to the MEDICAL BRIEF.—L. R. CRAIG, M. D., Mitchell, Neb.

Book Notices.

THE NATURAL LAWS OF SEXUAL LIFE. Medical-Socialogical Researches. By Dr. Anton Nystrom, Stockholm. Authorized Translation from the Third Swedish Edition. By Carl Sandzen, A. M., M. D., Ph. D., Professor of Physical Therapeutics, University of Kansas School of Medicine; Author of Massage, Swedish Movements and Allied Physical Therapeutical Methods. Kansas City, Mo.; The Burton Company, Publishers. Price, $2.00.

This is a subject that interests all alike, whether physician, student, the laity—married or single. The general hygienic conditions that surround this subject is a matter for reflection, and very little has been done to educate the growing person on sexual matters, and we must consider this subject as well as those of diet, breathing in the proper way, digestion, the air we breathe, and all the elements that enhance our well-being. We have seen many works aiming to cover this subject, but they have been amiss in many of the scientific facts that go to make up the aims of theology rather than the physiology. This is an expose of the sexual life, its laws and the nature of love. This is a pure work of a different nature from any written on this subject, and can be read with profit and benefit to the physician.

THE PRACTICE AND APPLIED THERAPEUTICS OF OSTEOPATHY. By Charles Hazzard, Ph. B., D. O., Author of "Principles of Osteopathy," Former Professor of the Practice of Osteopathy and of the Principles of Osteopathy; Superintendent of Clinics, American School of Osteopathy, Kirksville, Mo. Third revised edition. Kirksville, Mo.: A. S. O. Book Co. Price, cloth, $3.00.

The new edition contains considerable new matter, many parts have been practically rewritten, and additions have been made to the subject matter throughout. It has been the author's aim to keep his work abreast of the growth of the science, and to make it a strictly up-to-date textbook of the subject. This work meets the demand for a compact work, of moderate price, devoted exclusively to osteopathic considerations. This is a book for practitioner as well as student. No osteopath should be without it. Part I.—Details of the technique of examination and treatment of all parts and organs of the body; full description of all the various lesions, and how the same are recognized upon examination; detailed description of the osteopathic method pursued in examination and treatment. The important subject of osteopathic diagnosis is thus fully and clearly set forth. Part II.—Diseases and their treatment, from a strictly osteopathic viewpoint. A most valuable feature of this portion of the work lies in the consideration of the anatomical relations between lesion and disease, constituting a rational and simple explanation, upon anatomical and physiological grounds, of the way lesions affect nerves, nerve centers, blood-vessels, lymphatics, etc., and cause disease; also how the correction of lesion, and the adjustment of mechanical relations, cures disease. Hygiene, diet, bathing, etc., are given their appropriate place in the treatment of disease.

THE EXAMINATION OF THE FUNCTION OF THE INTESTINES BY MEANS OF THE TEST-DIET. Its Application in Medical Practice and Its Diagnostic and Therapeutic Value. By Prof. Dr. Adolf Schmidt, Physician-in-Chief of the City Hospital Friedrichstadt in Dresden. Authorized Translation from the latest German Edition, by Charles D. Aaron, M. D., Professor of Diseases of the Stomach and Intestines in the Detroit Post-Graduate School of Medicine; Clinical Professor of Gastro-enterology in the Detroit College of Medicine; Consulting Gastro-enterologist to Harper Hospital, etc. With a frontispiece plate in colors. Crown octavo, ninety-one pages, extra cloth. Philadelphia: F. A. Davis Company, Publishers, 1914-16 Cherry Street. Price, $1.00.

This work sums up the investigations and observations of eight years' study by Dr. Schmidt. The wish to make examinations for the function of the intestines, and thus carry it out in practice, analogous to the usual examinations of the stomach contents, and to advance by means of it the diagnosis and therapeutics of the diffuse intestinal diseases, in the same way as it has already been accomplished in the pathology of the stomach, led the Professor to produce this work showing his conclusions. To those who read his work, which has received the approbation of his colleagues, we wish to say that it will enlighten them on the subject.

MAN AND HIS POISONS. A Practical Exposition of the Causes, Symptoms and Treatment of Self-Poisoning. By Albert Abrams, A. M., M. D. (Heidelberg), F. R. M. S., Consulting Physician Denver National Hospital for Consumptives, the Mount Zion and the French Hospitals, San Francisco; President of the Emanuel Sisterhood Polyclinic; Formerly Professor of Pathology and Director of the Medical Clinic, Cooper Medical College, San Francisco. Illustrated. New York: E B. Treat & Co. Price, $1.50.

The author truly says that the symptoms of self-poisoning are mainly objective, and for this reason are overlooked by the patient and disregarded by the physician. He presents in clear terms and concise form the fundamental principles of the subject. Special attention has been directed to the action of the sinusoidal current to show that its effects are disassociated with suggestion; thus the indifference of physicians concerning psychotherapy has called into existence many pseudo mind-cures. We see in this work food for thought, and doctors who are progressive should learn many ideas from its reading.

A COMPEND OF MEDICAL CHEMISTRY—INORGANIC AND ORGANIC. Including Urinary Analysis. By Henry Leffmann, A. M., M. D., Professor of Chemistry in the Woman's Medical College of Pennsylvania, and in the Wagner Free Institute of Science. Fifth edition, revised. Philadelphia: P. Blakiston's Son & Co., Publishers. Price, $1.00.

To the student who wishes to secure works for his final examination in the different branches of medicine and the collateral sciences, there are none better than the "Quiz Compends" of Blakiston's series. If you are interested in any branch particularly, get a list of the "Quiz Compends," and order what you want at $1.00 each, and you will find them a good thing to have for reference.

URINARY ANALYSIS AND DIAGNOSIS. BY MICROSCOPICAL AND CHEMICAL EXAMINATION. By Louis Heitzmann, M. D., New York. Second Revised and Enlarged Edition. With one hundred and thirty-one illustrations—mostly original. New York: William Wood & Company. Price, $2.50.

The first edition of this work was issued about six years ago; thus a second edition must, of necessity, be revised, owing to the many advances that have been made in the elapsing time. This work has been revised and brought up to the present in every respect. When we say brought up, we mean that the ideas are really in advance of the present knowledge on the subject. The author has taken occasion to incorporate the simpler tests of chemical examination that have proven of value, so that you need not be experts on the subject, but can grasp the ideas in a way that you can fully understand. Microscopical diagnosis has been fully elucidated, so that the student can understand its full meaning, and thus clearly understand the case. We believe that this is a work on the subject that appeals to the general practitioner and student in a way that no other work on the subject does.

A COMPEND OF DISEASES OF THE SKIN. By Jay F. Schamberg, A. B., M. D., Professor of Diseases of the Skin, Philadelphia Polyclinic and College for Graduates in Medicine; Fellow of the College of Physicians of Philadelphia; Member of the American Dermatological Association. Fourth edition, revised and enlarged, with one hundred and eight illustrations. Philadelphia: P. Blakiston's Son & Co. Price, $1.00.

This is one of Blakiston's Quiz Compends, especially adapted for the use of students of medicine, and is based on the most popular text-books, and the lectures of the most prominent men along this line. These compends contain information covering a wide scope, and could only be obtained elsewhere by wide search.

A MANUAL OF BACTERIOLOGY. By Herbert W. Williams, M. D., Professor of Pathology and Bacteriology, Medical Department, University of Buffalo. Revised by B. Meade Bolton, M. D., Expert, Bureau of Animal Industry, Washington, D. C. With one hundred and eight illustrations. Fourth edition. Revised and enlarged. Philadelphia: P. Blakiston's Son & Co., Publishers. Price, $1.75.

Recent advances in bacteriology have made it imperative to enlarge the chapters on poisons and on immunity, and the additional space given to these chapters are amply justified by the information they contain. If you are interested in bacteriology in the full sense that the subject calls for, get this work.

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Editorial.

Prejudice.

Prejudice is the quality which enables men to use each other, even to their injury. For illustration, agitators in labor unions could not induce workingmen to act against their own interests if the agitator did not work on the prejudices of the men.

In politics, medicine, and religion, prejudice is the lever used to constrain masses of men to follow in any given direction, or to give their support to a particular measure for the benefit of the few. It is easier to work on the prejudices of people than to instruct and convince them by means of logic. Prejudice blinds men and makes them susceptible to any influence the agitator desires to exert. The dishonest man always chooses this method of governing men, in preference to logic.

All men have a certain amount of prejudice, just as all have a strain of superstitition. It is part of our humanity. The more ignorant a man is the more open is he to arguments which appeal to his prejudices. The educated man strives to lift himself above the clouds of prejudice by thinking, investigating, and studying things for himself. He follows no leader, but seeks to inform himself by reading all sides of a question, and weighing the matter in his own mind.

Organizations are usually swayed by some one or two men, who seek to advance themselves, and are able to wield great power by well-planned efforts to prejudice those under their control, for or against certain things.

There is no such thing as liberty for the man who submits to the domination of prejudice. He is bound to be the tool of others. But he has the choice open to him, whether he will remain a catspaw, an ignorant tool, or whether he will be his own master, and raise himself from

the bog of ignorance into the light of knowledge, where he can see and judge for himself, and where, alone, security is to be found.

Kidney Diseases.

The doctor sometimes overlooks the fact that in certain forms of kidney disease stimulating diuretics, such as buchu, juniper berries, etc., may do harm, for the reason that the kidneys are already overstimulated by the retention of uric acid, and other renal irritants.

The kidneys need rest, in this condition, rather than further efforts, and this can be obtained by giving soothing diuretics and diaphoretics. Medicines which act on the skin and bowels give the kidney rest, hence increase its strength, and the patient improves.

While it is a most important point in most kidney diseases to see that the patient drinks a large quantity of water, yet in this particular condition of the kidney, naturally the patient can drink too much water.

In prescribing for this form of renal disease, the doctor must be governed by cause and effect, and not by conventional rules.

Why Not?

If a physician makes a specialty of some particular disease, and is better qualified to treat that disease than the general practitioner, why should not a chemist who gives his attention to the manufacture of one or two preparations be better qualified to make reliable products than the general manufacturer? The same rule must hold true in both cases.

The Original Independent Medical Journal.

There are hosts of independent medical journals *now*, but we wish to go on record as the original independent medical journal, having a history of independence beginning in 1873. We have been fearlessly independent and catering to the best interests of the profession all this time. Since the tentacles of the octopus have attempted to grasp everything in medical journalism, we have found a large majority of the brainy editors coming into our ranks. We have only praise for these wise editors, who have seen the wisdom of our thoughts of long ago. It may have been intuition on our part, yet we foresaw the necessity of independence of the medical press, and started our journal along these lines.

Query.

An Atlanta correspondent sends the following query: Did Moses invent the lie about Adam and Eve? If he did not, then who did?

The Best Method of Administering Lithia.

Ten grains of citrate of lithia dissolved in a goblet of water and taken during meals, is the best form to get results from the administration of lithia, when indicated.

[Written for the MEDICAL BRIEF.]

Few Things in Medicine I Know.

BY C. R. KING, M. D.,
Atlanta, Ga.

There is one simple thing I ought to have known, or learned, but I did not until I was taught it by my friend, Dr. Reid, of Tennessee, an octogenarian, very learned and intelligent physician. It was concerning the use of lobelia, as I notice in this issue of the BRIEF Dr. J. A. Burnett, of Cecil, Ark., says use very small doses of lobelia to avoid nausea. This same thing troubled me for years till I met Dr. Reid. I so often got the nauseating or toxic effect of the drug, even in small doses, before I got the grand therapeutic effect of that noble helper when we need it, and that is so often by all educated eclectics, and all others would use it if they knew all its worth. I never need veratrum or pilocarpine, or coal-tar derivatives, for now being able to get the full physiological effect of lobelia on the nervous system, the heart, the secretions and circulation without nausea, as I did so often before Dr. Reid told me to give after or with each dose a full cup of tea or cold or hot water, and thoroughly in that manner dilute the dose of tincture, or, fl. ext. lobelia, and I found I could give much larger doses, and get the happiest effects alone or in combination with asclepias.

512 Austell Building.

THE MEDICAL BRIEF

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[Written for the MEDICAL BRIEF.]

The Application and Technique of Skin-Grafting, with Special Reference to the Whole Skin Method, and a Description of a Modification of the Wolfe-Krause Technique.

BY ARCHIBALD YOUNG, B. SC., M. B., C. M.,
Surgeon to Out-Patients, Western Infirmary, Glasgow; Extra Honorary Surgeon, Royal Hospital for Sick Children, Glasgow; Late Senior Assistant to the Professor of Surgery, University of Glasgow.
Glasgow, Scotland.

Under the title, "Skin-Grafting in the Late Treatment of Severe Burns, Involving Extensive Areas of Skin," I contributed to *International Clinics* (Volume I., Fifteenth Series), a paper, in which was described an essential modification in the operative technic of Wolfe's, or Krause's (whole thickness of the skin) method, giving notes of a series of illustrative cases treated according to this plan.

Since these cases were published I have had occasion to carry out the method in further cases of denudation of considerable areas of skin surface following burning, as well as to apply the principles to a number of cases of different nature.

It is the purpose of this paper, while referring to further examples of similar sort to those then outlined, to mention a few of the other surgical conditions in which I have employed the method with, I may say, equally successful results.

For the benefit of those readers of the MEDICAL BRIEF who may not be completely familiar with this method of skin-grafting, or with skin-grafting generally, it may be well, by way of preface, to consider shortly some of the chief methods which have been, from time to time, practised by surgeons all over the world. At the outset it may be stated that the different processes of skin grafting are all included under the three classes of (1) *autodermic grafting*, (2) *heterodermic grafting, and* (3) *zoödermic grafting.*

1. *In autodermic grafting* the skin used in the process is obtained directly from the patient. It is, in fact, skin removed from some convenient part of his, or her, own body. As might be expected, grafts of this type have an initial prospect of success far in advance of all others, and in the method I practice I have, in most instances, employed such a plan.

2. *In heterodermic grafting* the grafts are derived from the body of some person other than the patient. In many cases grafts so derived live, and even flourish, on their new owner, but their chances of life are by no means so good as in the autodermic form. I have, on various occasions, made use of this method, and with a moderate degree of success. It is apt, however, to prove disappointing, even in cases that might be expected to do well enough. The exact conditions necessary to its success I am by no means clear about in my own mind.

In my former paper I mentioned, incidentally, some three cases in which I had

employed the heterodermic method, and in which the result had been fairly pleasing. One case cited was that where I obtained, in the course of a laparotomy, a small piece of skin from the region of the umbilicus, and after carrying it in a small bottle of saline solution for about two hours (in my waistcoat pocket), cut it into several pieces, and planted these on a raw surface, which was requiring skin. In another case I employed portions of the thinned-out skin removed from the surface of a spina-bifida sac. Skin sufficient to completely cover a fairly-extensive burn of the upper and anterior part of the thigh, in a young adult, was obtained (and applied in a single large graft) from the amputated leg of a healthy lad, who had been run over an hour before.

All of these grafts lived, though the last mentioned became discolored, underwent much vesication and, subsequently, desquamated somewhat deeply—an occurrence that in ordinary autodermic grafting, according to the plan I have practiced, is most unusual.

More recently, I have tried the heterodermic method in one case. In it a very large amount of skin was necessary, and though a substantial improvement had been got by autodermic grafting, there still remained an extensive area quite devoid of skin. With a view to expedite the covering process, a large quantity of skin, removed from the surface of a huge fibro-lipoma in another patient, was divided up into portions varying in size from one-half an inch to one and one-half inches, and these were planted on the denuded surface. For a time the grafts seemed to do quite well, and everything looked promising, but, subsequently, they began to desquamate deeply, and, finally, were very largely cast off. It may be said that the patient was a gentleman whose mental condition had, a short time before, been such as to necessitate treatment in an asylum, and the relation between the mental factor and ordinary powers of tissue vitalization may, to some extent, have decided the issue. Also, it may be admitted, that skin stretched over a rapidly-enlarging fibro-lipoma, such as in the case cited, is, perhaps, not possessed of great inherent powers of resistance. Just a day or two ago I again attempted heterodermic grafting in the same case, the skin being obtained from a spina bifida sac, in an otherwise healthy infant, and being applied within one and one-half hours of its removal. The fate of this skin is not determined, but as the patient is, himself, in a greatly improved state of health, both mentally and physically, and the skin was derived from a healthy source, the prospects of success may be regarded as more promising.

3. *Zoödermic grafting* I have not tried. It has, however, been favorably spoken of by a number of writers. The materials used comprise pig skin, frog skin, and other animal skins.

* * * * *

In the development of the whole art of skin grafting the *chief methods* which have emerged are *known by the names of Lusk, Reverdin, Thiersch, Wolfe, and Krause.*

Lusk's grafts are obtained by blistering, or from accidental burns or scalds. They consist purely of epidermis or cuticle. They may be sterilized, dried and kept for use as required. Instances have been recorded where such grafts have been successfully employed half a year, or even a year, after their removal from a patient. They are supposed to be applied dry, in small sections, one-sixteenth of an inch to one-twelfth of an inch square, and the dressing, it is said, should be dry and absorbent. Unless purulent accumulation necessitates earlier interference, ten to fifteen days should elapse before they are disturbed.

Of Lusk's grafts I have had no experience, and I fancy they are not widely employed. I am inclined to doubt whether they are likely to give much satisfaction.

Reverdin's method has had much wider trial. This has been known as "epidermic" grafting, though the grafts, which have been termed "pin-grafts," really include, in addition to epidermis, the superficial portions of the dermis. They are supposed to be one-sixth of an inch to one-eighth of an inch in diameter, and are sown at random over the whole raw surface. No chemical germicides should be used, nor should the granulations be dis-

turbed. The dressing should be of strips of sterile oil-silk, gutta-percha tissue, or silver foil, laid on in an imbricated fashion; outside of this being placed sterilized gauze, and a copious absorbent pad, the whole being fixed firmly in position by suitable supporting bandages. The dressings are not to be disturbed for at least five days.

My own experience with Reverdin's grafts has not been such as to encourage further employment of the method.

The Thiersch (or Ollier-Thiersch) method has had, and, I believe, still has, a large measure of support amongst surgeons. Here the grafts are of large size, from one inch to four inches in diameter, even. They consist of thin flakes of epidermis, with the apices, at least, of the underlying papilli of the dermis.

Under favorable circumstances these may establish good vascular connections within twenty-four hours, though firm adhesion and peripheral growth are of much later establishment.

Thiersch's Views.—According to the views advanced by Thiersch, a granulating surface consists of two distinct layers, a superficial one, with vessels disposed chiefly vertically, and a deeper one, where the vessels are mainly horizontal in direction, the tissue being in the deeper parts more mature. He advocated, therefore, (a) the scraping or rubbing away of the superficial layer of a granulating wound prior to the planting of the grafts, not only because if placed on immature granulation tissue the grafts were liable to be floated off by discharge, distorted in the later contraction, or actually separated in consequence of this, but also because he believed the chances of the grafts "taking" were much greater when they were brought into touch with fairly advanced connective tissue (or the parts of the granulation tissue, where the process of conversion into connective tissue was well advanced); (*b*) the covering in of the whole surface, and particularly of the margins of the wound, where, also, the grafts would be in contact with the maturest portions of the granulation tissue.

The details in this procedure are, shortly, as follows: The use of strong antiseptics should be avoided, or if they are employed in the preparation of the surface to be grafted, their use must be followed up by free employment of sterile salt solution before the grafts are applied. The grafts are cut by razor or special

FIG. 1. To show size of the surface grafted, and also the scar on the thigh whence the skin used for grafting was derived. Photographed ten days after grafting.

knife, and are carefully spread out over the surface, sterile salt solution being continuously employed during the process. Oil-skin, gutta-percha tissue, or silver foil, is then applied, and the whole covered

with a large absorbent dry dressing, which is carefully fixed in position, and left untouched for two to five days. Afterwards a simple antiseptic ointment may be employed.

This is, in effect (as in Reverdin's method), a dry dressing, and it will be evident that there are certain very obvious disadvantages in its use.

Discharge is retained, and, however innocuous to begin with, this is liable to undergo degenerative changes, which make it anything but a desirable accessory in a wound which ought to be kept in the most favorable state of local health. Besides, if slight displacement of the dressings occurs, and the protective oil-silk, or foil, should shift, there is liable to occur adhesion of the gauze, or wool, to the grafts, or raw surface, leading at the first dressing, perhaps, to displacement, or actual tearing away of the not yet firmly adherent grafts. Mayer's "moist chamber" is one of the many devices which have been suggested for remedying this defect, and *I may say that one of the important points in the method which I have adopted is the "moist dressing" of the surface grafted.*

I am ready to admit that Thiersch's procedure does, in many cases, give fairly good results though my own experience of it has not been altogether satisfying. I believe there is a much larger chance of success in adopting the "whole-skin method" of Wolfe or Krause whether carried out according to the plan of the originators, or some modification of this, such as the one I have devised.

The methods of Wolfe and Krause may be said to be practically identical.

As early as 1876, Wolfe, of Glasgow, employed whole-skin grafts, from one to two inches in diameter, for making good defects about the eyelids. The grafts were applied after being cleared of all their subcutaneous fat. The latter is of comparatively low vitality, and its removal, though apparently not absolutely essential, very greatly increases the chance of success.

Krause, of Altona, in 1896, published what is merely a development of Wolfe's procedure, and a demonstration of the much wider field for its useful employment.

The grafts he recommended were of the whole thickness of the skin; most commonly they were obtained from the front of the thigh by removal of a long, narrow ellipse, capable of closure by suture. They were carefully dissected up from the underlying fat, the flap being rolled inwards on itself as the dissection between derm and fat proceeded, so as to avoid excessive handling of the raw surface. No suture was necessary, and a dressing like that used for Thiersch's grafting was advised. Strict asepsis, dry operation, and thorough preparation of the patient and area to be grafted, were regarded as essential.

Matas, writing in *"The International Text-Book of Surgery,"* says that, "As a rule, the graft becomes discolored and blistered, finally losing its epidermal covering, but the deep epidermal layers and cutis remain, and these soon reproduce the lost superficial layers."

I have found that, in the large majority of cases where I have employed the "whole-thickness-of-the-skin" method, discoloration, blistering, and deep desquamation have been entirely absent. The exceptions have been chiefly those cases where the patient was debilitated, or of advanced age, or where some general or local cause was present, such as to imply defective vitalizing powers. Given a patient of fairly good general health, and of moderate age, and the avoidance of damage to the wound and grafts during the first few days following the grafting process; not only may there be no such discoloration, blistering, or loss of superficial layers, but the whole of the grafts will preserve, in the most complete fashion, epidermis, dermis, hairs and glans (sudoriparous and sebaceous). In Figure 10 of my paper in *International Clinics*, this complete preservation of the whole substance of the grafts was well shown, and the feature is quite a usual one.

* * * * *

The method, as carried out by me, may be described shortly as follows:

1. *The Cutting of the Graft, and Treatment of the Fresh Wound Made.*—A long ellipse of skin and subcutaneous tissue is removed from some suitable situation by a few bold, clean sweeps of the knife, the incision extending at once right down to

the aponeurotic covering of the muscles. On account of the shrinkage which occurs, it is necessary to cut the flap one-sixth to one-third larger than is required. This flap is then set aside in warm saline or borax solution.

Then, after complete checking of all hemorrhage in the fresh wound, the edges of this are at once completely sutured; the absence of intervening subcutaneous tissue renders this generally easy of accomplishment. This sutured wound is at once dressed aseptically, carefully covered up, and protected from harm.

The importance of attending to the details of asepsis in preliminary treatment of the skin of the part from which the flap, or graft, is to be taken, is obvious; desirability of cutting out the fat with the skin is also sufficiently evident. It saves valuable time at the actual operation, a few bold sweeps being sufficient to accomplish the removal of the flap; while, according to the older plan of careful separation of skin from underlying fat, and gradual rolling in of the skin upon itself, the process was a lengthy and tedious one. Thus Ceci (*Brit. Med. Journal*, April 16, 1892) speaks of taking an hour and a half to dissect up a flap measuring six and three-quarter inches by one and three-quarter inches. Instead of an hour and a half, the process, carried out as I suggest, should not take a minute and a half in outlining a flap of even twice such a length. A minute or two more, later on, will serve for the rapid and thorough cutting away of all the fat from the deep surface of the skin so removed.

FIG. 2. A nearer view of the grafted surface. To show the disposition and peripheral growth of the grafts. Photographed ten days after grafting.

Meantime, however, time is saved, and if that were not sufficient justification, the latter will be forthcoming in the great

advantage accruing from the absence of the fat between the skin edges which have to be sutured.

Fat intervening between the edges would either greatly limit the width of the skin flap removable, keeping in view the immediate complete closure of the wound, or it would necessitate much under-cutting of the skin-edges, and undue traction by strong sutures.

2. *Preparation of the Surface to Be Grafted.*—The surface to be grafted may now be uncovered, and prepared for reception of the graft. In a fresh wound, made under aseptic conditions, all that is necessary before application of these is the thorough checking of hemorrhage.

If, as in so many of my own original cases, where the denudation of skin was caused by burning, the attainment of asepsis is not practicable, the granulating surface is gently irrigated with sterile saline or borax solution, so as to wash away any discharge. Any antiseptics employed must be followed by abundant saline solution.

Further, it should be premised here that before grafting is decided on for any granulating wound, the surface should be got into a favorable state. Exuberant granulations should have been removed some days before; so also any necrotic tissue. The surface should be smooth, level with the surrounding skin, and of a healthy rose-pink color. Thorough cleansing should be carried out on the day before the operation, dried discharge and epithelial debris removed, and asepsis encouraged, so far as practicable.

3. *Preparation and Application of the Graft or Grafts.*—The flap of skin and subcutaneous fat, having been removed from the warm solution in which it was placed during the closure of the fresh wound, is now turned over on the palm of the hand, and all fat rapidly, but carefully cut away with scissors curved on the flat. A little practice makes the surgeon so dexterous that only a few minutes are required for its accomplishment. Even should the skin be button-holed here and there, it does not matter much.

If the surface is too extensive to be covered by the skin available, the latter can be cut up into portions of moderate size, and these are then applied evenly, and at regular intervals over the surface. At first I was in the habit of cutting the skin into a very large number of comparatively small pieces (from one-half inch by three-quarter inch to one inch by two inches), but a large experience has led me to apply the grafts in much more considerable pieces.

The actual preparation of the grafts, *i. e.*, the cutting away of the fat, and the dividing up of the skin available into the portions to be applied, can be carried out by the surgeon, while an assistant is uncovering the surface to be grafted, and preparing this for their reception. This still further economizes time.

FIG. 3. A still closer view of the grafted surface, show the peripheral growth of the grafts. Photographed ten days after grafting.

4. *Immediate and Subsequent Dressing.*—After careful application of the grafts the whole surface is to be covered with oil-silk protective, or some suitable tissue soaked in sterile saline or borax solution. For this purpose I have found the "protective gauze tissue" prepared by MacMillan, of Glasgow, most satisfactory. Made, first of all, to the suggestion of Dr. J. C. Renton, of Glasgow, this consists of a basis of wide-meshed book muslin, permeated by an isinglass varnish.*

This material gives sufficient resistance to modify, under pressure of overlying dressings. Yet, when moistened as di-

*Renton. *British Medical Journal, June 14, 1900.*

rected, it lies closely upon the grafted surface, keeps the grafts in place, and in close apposition with the granulation tissue, and discharge is allowed adequate means of escape through its wide meshes.

The dressing external to this should be abundant, absorbent and moist. I use plain aseptic gauze, soaked in saline or borax solution; this gauze being laid on in several layers. Lint is, in my opinion, of too close a texture for efficient ventilation or drainage. When soaked or caked with discharge, such an application is bound to very materially interfere with the normal transpiratory, secretory, and excretory functions of the wound and grafts. This is of considerable importance, as will be readily understood, in the case of skin grafts, *whose vitality will be affected by comparatively trivial influences.* This dressing, applied moist, must be preserved so by being swathed completely with a large sheet of gutta percha tissue, and the whole covered in, and supported lightly, firmly and equally with wool and bandages. The part must then be placed at rest, in the most comfortable position, and generally in the position of most complete muscular relaxation. This, however, may require modification where there is any special contra-indication, as *e. g.*, where it is necessary to counteract a tendency to contracture.

As regards the subsequent local treatment, it is of the very essence of my plan to change the external dressing—down to the layer of "protective gauze tissue"—daily, from the very outset. If this be done, with ordinary care, the grafts underneath the protective need run no risk of displacement, and the local hygiene is substantially promoted by gently swabbing away, or washing off, any discharge which may have exuded through the meshes of the gauze.

The hypothetical risk involved in this early disturbing of the dressings is much to be preferred to the certain harm which retained discharge would imply. After a few days the protective may itself be removed, and a fresh piece be applied, but by this time there should be no further risk of disengagement of the grafts.

It is unnecessary to do more than mention that, in addition to the measures directed toward encouraging local wound health, attention must, in the preliminary, as well as in the subsequent treatment, be directed towards attaining the fullest constitutional weal, by good food, fresh air, massage, tonics, etc.

Shortly, then, I may summarize what I have said somewhat as follows:

Summary.—The whole-thickness-of-the-skin method of skin grafting gives by far the most satisfactory and reliable results. The method I have found most successful is that put forward by myself; it is a technical modification of the Wolfe-Krause plan, of which the essential points are:

(*a*) The rapid outlining of a flap by cutting directly down upon the fascial plane.

(*b*) The immediate and complete closure and suture of the wound thus made.

(*c*) The application of the graft, or grafts, directly upon a granulating surface, whose local health is satisfactory.

(*d*) The expeditious removal of all underlying fat from the graft, or grafts.

(*e*) The use of a suitable "protective gauze" for directly covering the grafted surface.

(*f*) The adoption of a "moist" dressing throughout.

(*g*) The daily changing of this dressing from the very outset, down to, but not including, the "protective gauze."

(*h*) The free use of sterile saline or borax solution, and the avoidance of strong antiseptics.

* * * * *

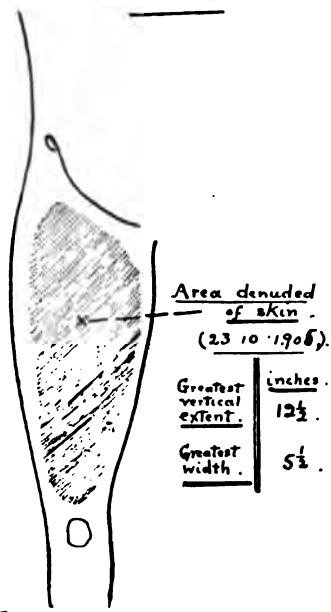
In my original paper I cited a number of illustrative cases of extensive burning, where the method gave most satisfactory results, and photographic representations were given, showing the grafts at different stages of their further course. In a number of these cases the denuded surface was so large that it was quite impracticable to substantially cover it at one operation. I have, in several cases, found it necessary to submit the patient to as many as three to five successive grafting operations, at each of these applying a very considerable number of moderate-sized grafts, at suitable intervals, over the raw surface.

It may be at once admitted that the esthetic effect is not altogether pleasing,

a somewhat patch-work surface being the result. After all, however, except in exposed situations, such as the face, this must be regarded as of only minor importance. The great thing is, that the surface shall be covered with skin as quickly as possible, in order not only that contracture may be minimized, but that the patient's misery and discomfort may be, as far as possible, cut short. As stated in my former paper: "It is the utilitarian, not the esthetic plea, that must have most weight."

As examples of the application of the method to cases similar to those dealt

FIG. IV



RIGHT THIGH - MR H.

with in my original paper, I may give two additional instances, which I illustrate in the figures accompanying this paper.

1. Figures I., II., and III. are taken from photographs made ten days after grafting had been carried out in a case of extensive burning of the back and axillary region.

The patient was a child, aged two years, who had been severely burned five weeks before I saw him. After due preparation, a long ellipse of skin was removed from the outer aspect of the right thigh (the scar is seen in Fig. 1), and was divided up into a number of pieces, which were duly planted upon the prepared surface on the back. The thigh wound healed without disturbance. The grafts all "took," and within six weeks the back was completely healed. The disposition of the grafts, their individual, complete preservation of integrity, and their peripheral growth are well seen in the plates.

2. Figures IV. and V. are line representations made from a second case of extensive burning. This patient was a man —a private patient—who had received his most terrible injuries by suicidal burning. In addition to a severe burn of the scalp, he had, when I saw him first—about four months after receipt of his injuries—extensive denudation of skin on the anterior aspect of the right thigh, and on the front of the lower part of the chest, and the greater part of the abdomen. Roughly, it may be said that the superficial area denuded of skin—excluding the scalp—amounted to from one hundred and sixty to one hundred and eighty square inches. The exact measurements are given on the figures.

Up to the present (February 15, 1906) I have grafted him three times. Of these the first was in October of last year (1905), when a large quantity of skin was obtained, under general anesthesia, from the outer aspect of the left thigh and leg, and the skin applied in small portions to the denuded surfaces on thigh and abdomen.

The immediate result on the whole local condition was most satisfactory. Apart from the fact that the grafts "took" well, the wounds greatly improved in health and tone. Of course, the skin obtained for the purpose of grafting, considerable though it was, could do no more than furnish a number (between abdomen and thigh some fifty-six pieces in all) of scattered islets of new skin growth. There still remained extensive areas quite devoid of skin. To further expedite the healing process, skin grafts derived—as mentioned in an earlier part of this paper —from a lipoma of shoulder in another

patient, were planted over the intervening spaces, about a fortnight later. As stated, however these heteroplastic grafts, though they promised well at first, largely came away, and little, if at all, helped matters.

A further attempt at heterodermic grafting in this case (mentioned already), in which the skin was derived from a young child, a few weeks old, may meet with more success.

February 19, 1906.—Since writing the earlier part of this paper, I have been able to observe the further progress of the heterodermic grafts (derived from the skin covering a spina bifida sac). At this date (twelve days after their application) the greater number of the grafts are flourishing, and some, even, which desquamated rather deeply, are living and growing.

In any case the thigh is now—four months from the date of the first grafting—practically healed, and without any contracture. The latest (heterodermic) grafts were applied solely to the surface of the abdomen.

The diagrammatic plates which are shown in Figs. IV. and V., will serve to indicate the extensive skin defect on thigh and abdomen, which in this case has had to be made good. Up to the present I have not been able to obtain photographs of the condition, as the patient (a private one) is somewhat averse to these being made.

At the outset of this paper I stated that I proposed, "while referring to further examples" of grafting in cases of severe burning, "to mention a few of the other conditions in which I have employed the method, with, I may say, equally successful results."

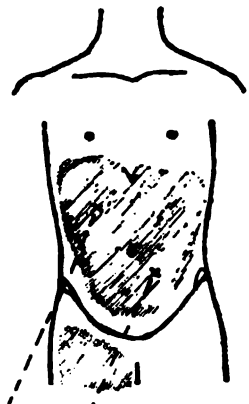
The earlier part of the paper has, however, attained such dimensions that I can do so only in the briefest manner possible.

The chief other purposes to which I have applied the method I have outlined—in addition to its sphere in treatment of burn defects—*have been these:*

1. *To make good a considerable skin defect* on the palm of the hand *in a case of extensive laceration.* This may be taken as a type of a not inconsiderable number of conditions, where, following severe laceration, there is marked skin deficiency, and the prospect of a somewhat prolonged healing process. In such conditions, after the most thorough and painstaking prosecution of the details of

FIG. V

MR H.
(23·10·1905)



DENUDED AREA – front of ABDOMEN.

Width – at upper end – 13 inches.
at middle – 9 do.
at lower end – 6 do.

Vertical extent – in middle line – 9 inches.

asepsis, and the employment of other methods that may suggest themselves in the way of closing gaps in skin—*e. g.*, by turning in flaps from neighboring parts—great advantage may often be got by immediate recourse to grafting, the necessary skin being obtained, after due precautions, from any suitable situation. This may be carried out at once, or if thought advisable—and, from the point of view of asepsis, safer—it may be deferred for a day or two until all the requirements of aseptic technique have been attended to.

2. *To make good a considerable skin defect* on the anterior surface of the chest wall, where, *following extensive and radical removal of a cancerous breast and glands*, the skin edges could not, by flap method, or otherwise, be got together, and

a large denuded area remained. This is a most promising field for the application of the method, whether as a primary or as a secondary proceeding. If it seems likely, in any given case, that the wound edges may not be capable of thorough approximation, preparation should be made beforehand to make good the defect at once, *i. e.*, at the primary operation.

A suitable part of the trunk, or of a limb, should, therefore, be selected a day or two before, and should be carefully prepared and sterilized, so as to allow of the skin required being at once removed from it, without any risk of the wound so made failing to heal by first intention.

3. *To fill the gap left after excision of a large chronic ulcer, or of the cicatricial tissue*—often of greatly-lowered vitality—*resulting upon long-continued ulceration, as, e. g., that due to varicose veins of the legs.*—In several cases of this kind I have practiced the method with much success, and the new skin surface so obtained has been found to have much greater vitality and powers of resistance than the cicatricial tissue removed. As important factors in insuring this good result, should be mentioned the wide and deep eradication of all the cicatricial tissue, freeing of the base of the gap from underlying bone, and the making of free incisions in a radiate manner around it. Treatment of the venous condition should also be adequately carried out.

4. *To make good defects made in plastic surgery*, as, *e. g.*, in a case of my own, where, following severe injury in early life (in a boy), the left ear had become firmly fixed to the scalp. After raising it from its bed, the gap left behind it was covered with skin removed from the outside of the thigh. The result was, on the whole, satisfactory, though further treatment is likely to be required before an altogether pleasing effect can be said to have been obtained.

* * * * *

These are only a few instances illustrative of the applications of the method, a method which my earliest experience led me to form a favorable opinion upon, and with which a wider experience has made me in every way content.

[Written for the MEDICAL BRIEF.]

Acute Simple or Benign Endocarditis.

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By endocarditis is, of course, meant inflammation of the lining membrane of the heart. We are indebted to Bouillaud for the name, and to him also belongs the honor of having proved the close relationship which exists between the disease and acute rheumatism. Acute endocarditis is a disease of supreme importance, because of the simple fact that it lays the foundation of such a large proportion of the cases of chronic valvular disease of the heart. When we consider this, and when at the same time we remember the undoubted fact that chronic valvular disease of the heart occupies such a high place in the list of diseases causing death, it certainly behooves us that we should be thoroughly well informed regarding the diagnosis and treatment of this interesting malady.

I venture to express the opinion that our great responsibility in the treatment of an ordinary case of acute benign or simple endocarditis is not generally sufficiently realized. The future longevity of a patient largely rests with the degree of skill with which a patient is treated when suffering from this disease. As far as my experience goes, there is no more clearly established fact than that after a patient has recovered from the immediate symptoms of an attack of acute endocarditis, the heart requires a prolonged period of rest so that it may have the opportunity of undergoing a sufficient degree of hypertrophy in order to accommodate itself to the increased work of carrying on the circulation under the altered mechanical conditions. When a patient is allowed to get up too early, that is, before the organ has had an abundance of time to undergo a thoroughly sufficient degree of hypertrophy, dilatation inevitably occurs, and the balance of compensation is upset. The supreme object

which we have in view is to so treat a case of acute endocarditis that the inevitable subsequent failure of compensation is postponed to the last possible moment.

Acute endocarditis has a special claim to our interest also because of the fact that it is frequently not attended by any recognizable symptoms, especially in children.

We will deal in this paper only with what is generally called acute simple or benign endocarditis. It is perfectly true that all acute forms of endocarditis are accompanied by the presence of micro-organisms, and that there is no essential structural difference between the morbid anatomy of the acute simple form and that of the malignant form; yet it is fairly easy to draw a distinction when we consider the disease in its clinical aspect.

Etiology.—It has been stated by some observers that an inherited liability to diseases of the endocardium is a factor of some note. The disease usually occurs between the ages of fifteen and forty, but we must remember that it is comparatively common in children. Fetal endocarditis is a rare affection, and when it does occur, it almost always affects the right side of the heart, especially the pulmonary valve. Regarding sex, it has been fairly well established that simple endocarditis is commoner in males, while the malignant form is more frequently found in females. Previous valvular disease is certainly a most important predisposing factor. When we come to exciting causes, by far the largest number of cases is due to acute rheumatism. The percentage of cases of acute rheumatism in which an acute simple inflammation of the lining of the membrane of the heart occurs has been variously stated as between twenty and thirty per cent. The percentage is much higher in children than in adults. Endocarditis more frequently occurs in the first attack of acute rheumatism than in subsequent attacks. It most frequently affects the mitral valve, and next often the aortic valve. While it is, in all probability, true that the more severe the type, and the more widespread the distribution of the rheumatic affection the greater the percentage of associated endocarditis, yet we must especially remember that the rheumatic attack may be only a mild one, or may show itself in an aberrant form, and, undoubtedly, this is why an attack of acute endocarditis is so frequently overlooked, much to the detriment of the patient's future welfare. Thus, a child may merely suffer from slight and fugitive pains in the joints, with no swelling or noticeable fever; or the child may complain of what are called "growing pains." Rheumatic nodules are a frequent cause and should always be searched for in children. Erythema nodosum is also sufficient. Indeed, there is good reason to believe that the endocarditis may be the first manifestation of rheumatism, that is, it may occur before the articular affection. Poynton and Paine have formulated the theory that acute rheumatism is due to a micro-organism, and they have found the same organism present in the endocardium. Tonsillitis may be complicated with endocarditis. Chorea stands high in the list of causes. Stephen Mackenzie found undoubted signs of cardiac disease in over sixty per cent of cases which had previously suffered from chorea. This is not the place to discuss the association between rheumatism and St. Vitus' dance. Acute zymotic fevers are frequent causes, and of these scarlet fever is the commonest. Pneumonia is a comparatively common cause. Measles, small-pox, and diphtheria, much less frequently give rise to the condition. The disease is by no means rare in pulmonary tuberculosis. Bright's disease, gout, syphilis and diabetes are rare causes. Fetal endocarditis may or may not be associated with congenital anomalies of the heart.

Morbid Anatomy.—It is not necessary to consider the morbid anatomy of the disease, in detail. It is sufficient to mention just a few points: In adults the affection usually attacks the left side of the heart, that is, the mitral or aortic valves, because this side of the organ bears the greater pressure within the cavities, and it contains arterial blood. The mitral orifice is more subject than the aortic. The surfaces of the valves are usually the auricular surface of the mitral valve, and the ventricular surface of the aortic valve. The parts of the valves which are most in

contact on closure, that is, a short distance from the edges of the cusps, form the most frequent site. The cusps first of all undergo swelling from edema and proliferation of the connective tissue cells. Later on, white, opaque, cauliflower excrescences, called vegetations, from one to four millimeters in diameter, are formed. They consist of blood plates, leucocytes and fibrin. Micro-organisms are frequently found in these vegetations. The further stage of these vegetations varies. By far the commonest result is for organization to take place; fibrous tissue is laid down, which conforms to the invariable rule of such tissue, in that subsequently it contracts, and, as a result of its contraction, thickening and deformity of the valve ultimately occur, giving rise to incompetence, or stenosis, or both. In a certain proportion of cases the vegetations are detached, forming emboli, which become impacted, and give rise to infarction, most commonly in the kidney, or spleen. Sometimes the endocarditis, having commenced as the acute simple form,becomes transformed into the malignant variety, and this is one of the commonest modes of a fatal termination. Complete resolution of the valvular inflammation is said to occur in some instances, but if this happy termination does happen at all it is an extremely rare occurrence, and it is questionable whether it ever exists, because once a true inflammation of the endocardium becomes really established, it seems hardly possible that it can escape from the ultimate formation of fibrous tissue.

Symptoms and Physical Signs.—When an attack of acute endocarditis occurs during the course of some general disease, such as acute rheumatism, the patient very frequently exhibits no other symptoms than those of the parent disease. It is for this reason that the lesion is often only diagnosed by the physical examination of the heart, and, therefore, it is a matter of the highest importance that a systematic examination of that organ should be performed daily in every case of acute rheumatism; otherwise a very large proportion of the cases in which cardiac mischief exists will be missed altogether.

Though there may be no subjective symptoms, there is frequently a rise of temperature, unaccompanied by any aggravation of the joint trouble. On the other hand, the patient may complain of an uncomfortable sensation in the region of the heart, amounting even to pain. Sometimes there is shortness of breath on exertion. In children, when there is accompanying pericarditis, the dyspnea may be great. Frequently, there is palpitation. Indeed, this may be a marked feature. Syncope is rare. The pulse usually becomes more rapid, it may be small, of low tension, and occasionally it is irregular. The patient occasionally suffers from mental symptoms, such as delirium. Later on, though very rarely, there may be great breathlessness and cough, due to backward pressure in the lungs, a deficient excretion of urine, with albuminuria and hematuria from congestion of the kidneys—in other words, all the indications of a failing heart. Symptoms of embolism of the spleen, kidney, brain, or other organs may occur.

When we come to examine the heart, the apex beat may be further out to the left than is normal. In the early stage of the disease it is often of a tumultuous character, but, later on, when the myocardium becomes affected, it is more commonly feeble. The transverse precordial dullness is frequently increased. But the most characteristic physical signs are found on auscultation. We have already seen that the mitral valve is the most commonly affected; therefore, the signs are usually heard over the apex of the heart. Here the first sound becomes prolonged, rough and may show a want of clearness. This preliminary prolongation of the first sound is of the highest importance from a diagnostic point of view. In from twenty-four hours to a few days from the onset of the endocarditis a soft-blowing systolic bruit frequently develops. Later on, the pulmonary second sound usually becomes accentuated. In the great majority of cases it is only some time after the acute illness that a presystolic bruit is heard in those cases where mitral stenosis becomes established; that is, it requires some time for the fibrous tissue to contract. When the aor-

tic valve is the seat of the lesion, the first sound in that area usually becomes altered in character, and, subsequently, a systolic bruit may develop. The second sound often becomes modified, but it is only when the cusps of the valve contract, and by so doing allow of a backward leakage, which, of course, takes some time, that an aortic diastolic murmur is heard.

Diagnosis.—The diagnosis of this disease is a matter of great importance, and also, unfortunately, it is frequently attended by extreme difficulty. As the diagnosis is based practically entirely on physical signs, it is our duty to make a most careful examination of the heart, day by day, during the course of any of the general diseases named, and, especially, of acute rheumatism. It is common to find a mitral systolic murmur, due to the associated cardiac dilatation, or anemia, in any febrile disease. Therefore, we must not assume that such a bruit is necessarily indicative of endocarditis. Are there any distinguishing features? The preliminary prolongation of the first sound is strongly in favor of a valvular inflammation, as also is the early appearance of the murmur, because the bruit, which is due merely to simple dilatation of the left ventricle, or to anemia, does not usually make its appearance at the very early stage of the febrile attack. A soft blowing quality of the murmur, in contrast with a harsh quality, is of some help.

A diagnosis of certainty may, as a rule, be made when there is a considerable accentuation of the pulmonary second sound, provided there is no sufficient degree of congestion of the lungs to account for this. If the murmur is purely hemic, it is often heard over the base of the heart, as well as in the mitral area. Of course, when a mitral presystolic, or an aortic diastolic bruit is heard, there is not the least difficulty in making a diagnosis, but, as already mentioned, these murmurs are extremely rarely heard during the course of the acute illness.

We must be careful to differentiate between an endocardial murmur and a false sound of exocardial origin; that is, a sound due either to acute pericarditis, or acute pleurisy. A pericardial rub usually has its maximum intensity in an area not corresponding to a definite valvular area; it gives the impression of being superficial, is not quite synchronous with the heart sounds, though it may obscure them; has no selective propagation, is usually of a to-and-fro character, is often made worse by pressure of a wooden stethoscope, and frequently varies within a short space of time. A pleuritic rub is easily diagnosed, because it disappears on the patient's holding his breath, and becomes more marked on deep breathing.

It is often very difficult to make a differential diagnosis between chronic valvular disease and acute endocarditis. A history of a previous attack of acute rehumatism, or chorea, the fact that the patient has previously suffered from shortness of breath on exertion, or from edema about the ankles, the presence of manifestations indicating failure of compensation, the signs of hypertrophy of the left ventricle, or of the enlargement of the right ventricle, and the fact that a mitral systolic bruit is propagated beyond the mid-axillary line, all point to the conclusion that we are, in all probability, dealing with the former. But the patient may be suffering from acute endocarditis, grafted onto an old lesion. The presence of pyrexia is here of great help.

It is usually comparatively easy to distinguish what is called the cardiac form of malignant endocarditis from an acute endocarditis. The constitutional disturbances are, as a rule, more severe, and may be of a typhoid character, the temperature is usually of a remittent or intermittent type, and is accompanied by rigors; there is frequently well-marked and persistent anemia, there may be enlargement of the spleen, hemorrhages into the skin subcutaneous tissue or retina, or optic neuritis, and a bacteriological examination of the blood, while the results are so frequently negative, affords conclusive proof of the malignant nature of the disease when the result is positive.

Prognosis.—The immediate prognosis in acute simple endocarditis is, in the vast majority of cases, good. Death does occasionally occur either from the severity of the causal disease, or from some complication, such as myocarditis, pericarditis, pneumonia, pleurisy, embolism,

hyperpyrexia, or malignant endocarditis. As a rule, however, the patient recovers from the acute illness. Absolute recovery never takes place. It may be only after many years, but, sooner or later, symptoms and physical signs of chronic valvular disease supervene. The prognosis is worse when the endocarditis is grafted on to old valvular disease, as there is a greater liability to embolism, and the inflammation is more often of a malignant type.

Treatment.—Unfortunately there is no positive evidence that the internal administration of salicylates during the course of rheumatic fever lessens the risk of cardiac complication.

This statement coincides with the conclusion which was arrived at at a discussion held by the Medical Society of London, in 1881. The only point is that the salicylates may possibly have an indirect influence by shortening the active period of acute rheumatism. Our clear duty regarding prophylaxis is to specifically advise persons when there is a family, or personal tendency to rheumatism to, if possible, live in a dry house in a district where there is a gravelly or sandy soil, to wear flannel next to the skin, and not to expose themselves to inclement weather unless necessary. In a child, if there is the slightest suspicion of rheumatism, that is, should the child have fugitive pains in the limbs, or rheumatic nodules, or slight fever, we should repeatedly and carefully examine the heart, since the joint affections are usually mild in children.

If there is the least suspicion of endocarditis the patient should be kept in bed until all doubt is over. When there is no doubt that we are dealing with a case of endocarditis, absolute rest in bed is the all-important factor. The patient should also avoid all forms of mental excitement. The best diet during the early stage of the disease is milk, especially with the addition of some alkali, given every two or three hours. The bowels should be acted upon by a milk saline aperient. The treatment of the causal disease must be continued. In rheumatism, some member of the salicyl series is indicated, unless there are signs of cardiac failure, or of myocarditis. We can give salicylate of sodium, or salicin, in fifteen- to twenty-grain doses every four hours, until the temperature falls to normal, the dose then being gradually reduced for a period of several days. Salicin has a less depressing effect than the salicylates. In cases of gout we naturally give colchicum and alkalies. If the heart's action is excited or too frequent, we can diminish the violence of the closure of its valves by supplementing bodily and mental rest, with the internal administration of anodynes. Of these I believe that small doses of opium or morphine are by far the best, and as long as discretion is used, in my opinion, may be given with perfect safety. They are especially indicated when there is much pain and restlessness. I have frequently used the local application of ice to the precordia with great success. It lessens the pulse rate, diminishes the excitable action of the heart, and is often efficacious in relieving pain. It also tends to keep the patient in a quiet position. It is contraindicated when there is much dilatation of the heart, and a small, intermittent pulse. When used, it is better to put a piece of flannel between the skin and the ice bladder. Some authorities prefer hot fomentations, or poultices, and a few leeches applied to the precordial region may be tried in plethoric subjects, with a quick and full pulse, when there is local pain, and a sense of oppression. It is better not to give stimulants during the course of acute endocarditis, unless there are definite signs of cardiac failure. But we should always be on the lookout for such, because occasionally paralytic myocarditis sets in with great rapidity. Brandy, spirits of ammonia aromatic and ether are then indicated. Digitalis may, with advantage, be prescribed when the pulse is quick and small, or irregular. It should be withheld when the pulse is full, though quick, for by rendering the heart's action more powerful it may cause the detachment of a vegetation, and thus give rise to embolism. Hypodermic injections of strychnine and oxygen are rarely necessary. If the temperature should become high, and at the same time the pulse become very quick, the best method of reducing it is by means of tepid or cold

sponging. Quinine may be given with safety.

After the more acute symptoms have passed off, the patient may be allowed a more liberal diet, in the shape of eggs, fish, and chicken, and this may be gradually added to until the ordinary diet is reached. Undoubtedly, benefit is now gained from the administration of small doses of iodide of potassium. It tends to hasten absorption of the inflammatory products. Painting the precordia with iodine and blistering may do good. The former may be repeated from time to time for weeks or months. Dr. Caton, of Liverpool, recommends repeated small blisters over the heart.

Now the patient is getting better the all-important question of prolonged rest should be borne in mind. In practice I have followed the rule of keeping the patient in bed, or in a room, for several weeks, or even two or three months, after the attack is over, in order to give the heart the best chance of undergoing compensatory hypertrophy. I have completely satisfied myself that subsequent results more than justify such a procedure. Afterwards, some weeks in the country, or at the seaside, especially in a dry, bracing climate, are advisable, and the patient should live a most strictly regulated life, only such exertion which stops short of producing undue breathlessness, distress, or fatigue, being allowed. If there is anemia, iron or arsenic should be given. The administration of quinine and strychnine is also attended with advantage.

From this short study we gather that acute simple endocarditis is a disease of the greatest practical importance, and that its management should be conducted with extreme care.

Enclosed find one dollar. Please enter my name as a subscriber to the MEDICAL BRIEF. My grandfather, who practiced medicine fifty-three years, subscribed for the BRIEF. We agree very strongly with your editorials and admire your logical defense of individualism, the natural order of evolution as opposed to collectivism, the artificial order of short-sighted scholars.—F. M. NICE, M. D., Hamburg, Pa.

[Written for the MEDICAL BRIEF.]

Medical Teaching in London and Paris, with Especial Reference to Ophthalmology.

BY E. LUCAS HUGHES, M. R. C. S. (ENG.), L. R. C. P. (LOND.).
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PART I, LONDON.

Having for a number of years been greatly interested in the diseases of the eye, I recently determined to visit the hospitals of London and Paris, devoting eight or nine months to reviewing my knowledge of this special subject, and comparing it with all that was new and up-to-date in the scientific developments at these two great European centers of medical knowledge.

I did not wish to neglect, altogether, other branches of medical study. My view has always been that too much specialism is a mistake, that the human body should be taken as a whole, that the best specialists are evolved from general practitioners, that one must be first physician, and then specialist. I shall, therefore, while speaking in these articles, specially of what I experienced in the ophthalmic hospitals and ophthalmic departments of hospitals, say a few words about the hospitals of London and Paris in general. Years ago I attended, at different times, nine of the London hospitals after having qualified, and as I have recently renewed my experience I am able to give an idea of what the practice at the London hospitals is.

There are many large hospitals in London; one of the largest is the London Hospital in the Whitechapel road, away in the far east, containing about eight hundred beds. This is useful for those who wish to gain an extensive knowledge of general surgery; it is, perhaps, the best hospital for accidents and surgical casualties, as it is fed by the docks, large factories, and enormous population of the very poor in the east of London. Guy's and Bartholomew's make good seconds in this respect to the London. The other great hospitals are the University College Hospital, King's, St. Mary's, St. George's, Charing Cross, and Westminster. This last, although smaller than some of the

others, has all its appointments thoroughly up-to-date, the patients are treated with great kindness, as well as consummate skill, and the quaint wards are more like drawing rooms than hospital wards.

The Westminster Hospital has always been a favorite with American visitors to London, partly, perhaps, from its proximity to Westminster Abbey and the Houses of Parliament, but to a greater extent from the well-deserved reputation of its teaching staff. Dr. Murrell devotes special attention to the teaching of pharmacology and therapeutics, and his Saturday morning clinics are well attended. The physician-pathologist is Dr. Hebb, who, in addition to having wards, is in charge of the bacteriological and pathological departments. Amongst the surgeons are Mr. Stonham and Mr. Walter Spencer, whilst Mr. Tabby devotes attention to orthopedics. The skin department is under the care of Dr. Colcott Fox, and Dr. Sales-Barker is in charge of a well-fitted and thoroughly equipped electrical and light laboratory.

On the whole, except, perhaps, as regards Guy's and the London Hospital, the best neighborhood to command most of the hospitals is Bloomsbury. There are many excellent hotels in this, the west central district. They are not dear, and have been opened to afford good hotel accommodation for middle-class people. There is the "Thackery," opposite the British Museum, an excellent hotel, where you pay about a dollar for bed, breakfast, and attendance. A number of others, the "Waverly Hotels," named after Scott's novels, Kenilworth, etc.; the West Central Hotel, in Southampton Row, and the Gower Hotel, close to University College. Bloomsbury abounds also in good boarding houses, where you can board and lodge for about six dollars a week. It is, perhaps, wiser, however, to have a single room, or a good bedroom and sitting room, paying about two or three dollars for a room and have meals out. There are numerous good restaurants, Slater's, Lyons', the A. B. C. establishments, etc., where meals can always be obtained for about twenty-five to fifty cents, according to what you have. The great difficulty is as regards breakfast, as London people are not early risers, and it is difficult to get breakfast before half past eight. As the hospital work begins generally at nine, I used to get my breakfast close to the hospital at one of the numerous A. B. C. shops (A. B. C. stands for Aërated Bread Company). By having meals at the restaurants you are not so bound down as if you had to be back again to the hotel or boarding house.

It must be understood that these hotels and restaurants are suitable for the requirements of students and men of moderate means. For those to whom expense is not a matter of moment there are many large and centrally located hotels at the West End, such, for example, as the Cecil, the Savoy, the Grand, and the Metropole. At the Cecil a single bedroom can be obtained for from five shillings a night, including attendance, breakfast from two shillings six pence, and dinner from five shillings, although these charges can be readily exceeded. The Hotel Russell, in Russell Square, and the Great Central, are both good, and are fairly moderate in price, although not quite so centrally situated as some of the other first-class hotels. The Norfolk, the Arundel, and De Keyser's, are on the Thames embankment, and can be recommended. St. Ermine's Hotel, at Westminster, offers an inclusive rate at about twenty dollars a week, and similar arrangements can be made at many other hotels. First-class restaurants abound in London, and the casual visitors will experience no difficulty in getting well served.

University College Hospital has been recently entirely rebuilt on the site of the old building. It is thoroughly good, and the teaching is excellent. Very much can be said in favor of the medical teaching of the London hospitals, the physicians and surgeons do all they possibly can to impart knowledge, and with my enlarged experience of the teaching in continental schools, I must say that I remember with gratitude and pleasure what I received in London. The English are apt to despise what they receive at home, and imagine anything and everything that is foreign must be superior, but they are greatly mistaken. London, in many re-

spects, in my opinion, compares very favorably with Paris, but of that more later.

There is a good ophthalmic department at University College Hospital, and also at most of the other general London hospitals, but there are also special hospitals for this and other special disease. I attended for three months as clinical assistant to Mr. Hartridge in the ophthalmic department of the Westminster Hospital, where I was specially initiated into the treatment of squint in children, by means of exercising the fusion faculty, and the developing of binocular vision. I have enlarged my experience of this subject since I have been in Paris, but of that, also, more later, in Part II. of this article.

The two principal special hospitals in London for the eyes, are Moorfield's and the Westminster Ophthalmic. Of these Moorfield's is by far the larger; it is now called The Royal London Ophthalmic Hospital. It has been moved from its old situation near Moorgate, and is a fine, large building in the City Road. Everything is thoroughly up-to-date, and with the most careful attention to asepsis. It is about one hundred yards from the corner of Old street, where there is the station of the Electric Railway, and can be reached easily by train or tram from Bloomsbury.

The Royal Westminster Ophthalmic Hospital is at Charing Cross, about half a mile from Bloomsbury, and is quickly reached in the penny omnibus. There are a number of motor buses, as well as the old horse omnibuses, running in London now. During the winter and summer sessions a special post-graduate course of lessons and clinical instruction is given to medical men. You pay about eight or twelve dollars for this course, which comprises lectures and clinical instruction in the eye, ear, nose, throat, diseases of children, and nervous diseases.

The special hospitals for children are at Great Armond street, Paddington Green, and Shadwell. Great Armond Street is a splendid hospital for children, it has been recently greatly enlarged, and everything is thoroughly up-to-date. There is a splendidly worked hospital for diseases of the brain and nervous system at Queen Square, close to Great Armond street and Southampton Row. Bloomsbury and many post-graduate lectures are given there on these special subjects.

As I was especially interested in the eyes, I worked at Moorfield's four mornings a week, two mornings in the ophthalmic department at the Westminster Hospital, and usually spent my afternoons at the Royal Westminster Ophthalmic Hospital, Charing Cross. I attended an excellent course of lectures at the Westminster Ophthalmic Hospital, illustrated by means of lantern slides, thrown on a screen. Mr. Frost's enlarged representations of the variations of the fundus oculi were displayed in this way. The same method of teaching, by means of lantern slides, is adopted at Moorfield's. Mr. Herbert Parsons' course of lectures on "Ocular Pathology" was extremely good; he lectured for about an hour and a half, twice a week, for six weeks, and about fifty slides of microphotographs, in each lecture were thrown upon the screen, the very best way possible to become learned in the pathology of the eye. The men who went in most for teaching while I was at Moorfields, who were on the staff, were Collins, Herbert Parsons and Lawson, but some good teaching was done; also, some of the chief clinical assistants. Lawson gave a course of clinical lectures, which equaled anything one could get in Vienna. He had, before the lecture, chosen out of his clinic six or seven typical cases, then each patient in turn was called into the room, a large side room, away from the rush and noise of routine work, and lectured upon. Take, for instance, a typical case of chronic glaucoma: the shallowness of the anterior chamber is pointed out, the tension not increased, too chronic for that; sometimes even in these chronic cases the T is minus. The usual idea is that glaucoma always means + tension, but this is not the case in the advanced cases, which, of course, do not call for iridectomy; the tension may even be minus, and yet it may be a case of glaucoma. The real diagnostic points are the shallow anterior chamber, and the condition of the optic disc.

Another case is brought in, proptosis. The way to examine such a case: Patient

sits on chair, you stand behind and look down from above, comparing the profile of the two corneas. Question: What does proptosis suggest? Orbital growth, ocular tumor, abscess, etc., etc. If both eyes are prominent, exophthalmic goitre would at once be thought of, but prominence of one eye only is another matter. There are swarms of trachoma cases at Moorfields. In treating these cases Mr. Lawson points out that much harm may be done through too vigorous and careless applications of strong caustics, such as copper. He says, "Don't massage the eye with it." Astringents are not, by any means, always successful in trachoma. For acute cases it would be folly to use them; these need fomentations, leeches, and, as a weak antiseptic lotion, use warm perchloride of mercury, one in eight thousand. If strong astringents are used you are sure to get extensive scarring later on. The refraction is a matter often overlooked in trachoma cases. Attend to the refraction of your chronic trachoma cases and your treatment for the disease will be successful; neglect the refraction and you may go on forever painting, and swabbing, and pressing, and massaging, etc., without any success whatever. Nitrate of silver is sometimes better for trachoma cases than copper. It is less powerful in its action, and does not produce the same amount of scarring; ten grains to one ounce is quite strong enough. I was not surprised to find that at Moorfields extensive and continuous probing of the lachrymal duct was severely condemned. Mr. Marshall utterly condemns it. I see Professor Haab speaks strongly against it. It has been an old routine treatment which has tortured innumerable patients for many years, but now it is out of fashion. It is much better to patiently use the syringe, and the bad cases of stricture are best treated by removal of the lachrymal sac. This does not keep up the epiphora; in fact, it is the most effectual way of stopping the epiphora. The lachrymal gland atrophies, and the little supernumary glands in the eyelid are quite sufficient to lubricate and keep moist the eye. It is surprising that the operation of removal of the sac should cure the epiphora, but that is the case. I don't think there is any better place in this world for learning refraction than Moorfields. The extensive premises permit of the examination of hundreds of cases. The doctor and the chief assistants are glad of the help of the junior assistants. I have known enthusiasts to work there with cases from nine o'clock in the morning until four in the afternoon, without even a break for a hurried luncheon. Nowhere are there better dark rooms, fitted up with electric light, and excellent sliding brackets. The racks are not used as they are abroad, always trial frames with lenses, and the plain mirror is generally used. The only fault about the teaching at Moorfields is that there is not more of it; the fact is, there is such a crowd of cases to be seen daily that the men are too busy, and only a few find time to teach. Mr. Lawson's two clinical lectures a week, and the set lectures of the winter and summer section, are all at present. The pathological department is good, and men are taught by the curator to mount specimens, which become their own property. There is an excellent museum and library.

[Written for the MEDICAL BRIEF.]

The Surgical Treatment of Nephro-Lithiasis.

BY A. H. CORDIER, M. D.,

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Since the function of the kidney is essential to life, it behooves the physician to conserve this by every possible and safe means. A crippled kidney from stone injury regains its function in a surprisingly short time if the source of the injury is removed. The rapidity of this recuperation depending on the length of time, the size of the stone, its location, and the extent of the destruction to the pelvis and parenchyma. A recognition of these truths should admonish us to resort to early surgical interference, when once the diagnosis is made.

Nephrolithotomy is considered one of the safest opefations in surgery, unless

by delays the case has assumed a grave character by the destruction of the urine-manufacturing portions of the organs.

No case should be permitted to go on until abscess in perirenal structures has developed, or until urinary fistulæ have formed, obliterating all normal structures surrounding the organ. Conditions, such as mentioned above, add very materially to the difficulties and dangers of the operation, preclude in many cases the possibilities of saving the kidney, and make the convalescence a very unpleasant and tedious one, marked by suppuration, urinary fistula, and more surgery.

often an incorrect diagnosis is made, and the medical treatment is persisted in to the extent that the very dangers we want to avoid are permitted to slowly take place. That is, extensive injury to the kidney structure, and the crippling of its function.

A patient suffering from an attack of renal colic will require large doses of morphine to relieve his pain, but it might be well to recall the fact that the pain produces a tolerance of this drug, and that the kidneys are one of the main sources of its elimination, and that the pain often ceases suddenly, leaving our patient

Nephritic Calculus Removed by A. H. Cordier. Weight 1540 grains.

A healthy kidney, when incised, heals as readily as any tissue in the body.

I have much faith in prophylactic management of these threatened stone cases, but no reliance should be placed on methods advocated to dissolve and remove stones when once formed. Nature will, in many cases, cause the passage of small stones, but we should not deceive our patients and delude ourselves in the belief that our efforts were of much avail in her behalf.

The unfortunate feature of medication in these cases is the fact that only too

in a condition of profound stupor from the cumulative action of the repeated doses of the drug at short intervals.

The medical treatment of these cases is, of course, palliative only, but must be resorted to, as in many cases while we are making our patients comfortable the calculus may pass, and with proper care another may never develop.

The operative indications in nephrolithiasis are fairly well marked in most cases, yet in some the cases may assume a border line position, and require very

careful analytical consideration as to its proper management.

Indications for Operation.—Hematuria, if of long duration or oft repeated, may demand operation. Renal colic recurring often and severe, would also indicate an operation.

The presence of a stone in pelvis of kidney, whether producing colic or bloody urine, is a source of danger, and should be removed. Chronic invalidism is often cured by removal of a stone in a kidney, which was not producing any local symptoms of a grave character.

Where possible (and it usually is), nephrotomy is the operation of choice. The incision is the same as for nephrectomy, preferably the oblique, extending from an inch below border of last rib, in front of erector spinæ, downward the distance necessary. A few branches of the lumbar vessels may require ligating, and the nerves of the same name, if encountered, should be shoved aside when possible. The costoiliac space of the diseased side may be increased by a good-sized sand bag, or roll of sheets, placed on the opposite side, the patient being in, practically, the Sims position.

The kidney can usually be delivered into the wound, and an exploration by palpation, or otherwise, made. Where the prerenal structures have been inflamed and converted into a vascular mass, the delivery of the kidney is, in most cases, impracticable, owing to the profuse bleeding when the vascular capsule is torn. The organ can then be explored by needling in all directions, taking care to avoid the larger vessels. While one may miss a small stone by this process, it will be the exception. If the presence of a stone is strongly suspected, and the needle fails to find it, an incision on the convex surface of the kidney should be made, and the pelvis explored carefully with the finger. A stone with only the thickness of the ureter, or pelvic structures, can usually be detected by palpation, but small stones attached in the parenchymatous crater, may be overlooked. If the stone is not located by needle, or digital exploration, a metallic urethral catheter should be gently introduced, and the ureter sounded. This failing, I have for a number of years resorted to hydrostatic pressure to test the patency of the ureter, and in two instances have succeeded in forcing stones into the bladder from the lower portion of the ureter. This procedure I always resort to after clearing the pelvis of stones, as a precautionary routine to test the condition of the ureter.

The hemorrhage, on introducing the needle, is often quite profuse, but always stops of its own accord within a short time. The flow of blood from an incision into the kidney is alarming, but is quickly controlled by the pressure of the exploring finger, and if the kidney can be stitched at completion of operation the flow of blood can be checked. If a stone is detected its removal should be carried out with the utmost care, lest it be crushed and small particles escape into the ureter, or remain as a nucleus for the development of more stones.

If small particles have unavoidably been detached, or if there exist many small stones, the assistant should compress the ureter, twist the pedicle, or a good gauze pack against the ureter will thus prevent any small particles getting beyond easy reach of the operator, or his irrigating fluid. A good, firm gauze pack beneath the delivered kidney will also aid in controlling the bleeding during the operation. I have, on two or three occasions, resorted to the use of rubber tubing carefully tightened about the pedicle of the kidney, to limit the loss of blood. This will rarely be necessary.

After the stones have been removed, the kidney irrigated, the patency of the ureter established, if the case was not one of severe infection, the kidney may be closed as with any other wound, using chromicized gut for that purpose, taking care that the sutures do not go through the pelvis, and thus act as a nucleus for future stone development. If it is a suppurating case the pelvis should be packed with gauze, and a rubber drain put in. The gauze will aid in controlling the bleeding, especially if good, firm pieces of gauze packing are put in around the kidney also. The wound is dressed in the usual way. The gauze should remain in place for several days, as a too early removal will surely induce a troublesome

hemorrhage. Do not become discouraged at the duration of the drainage, as many of these old cases will drain for months, ultimately closing for good.

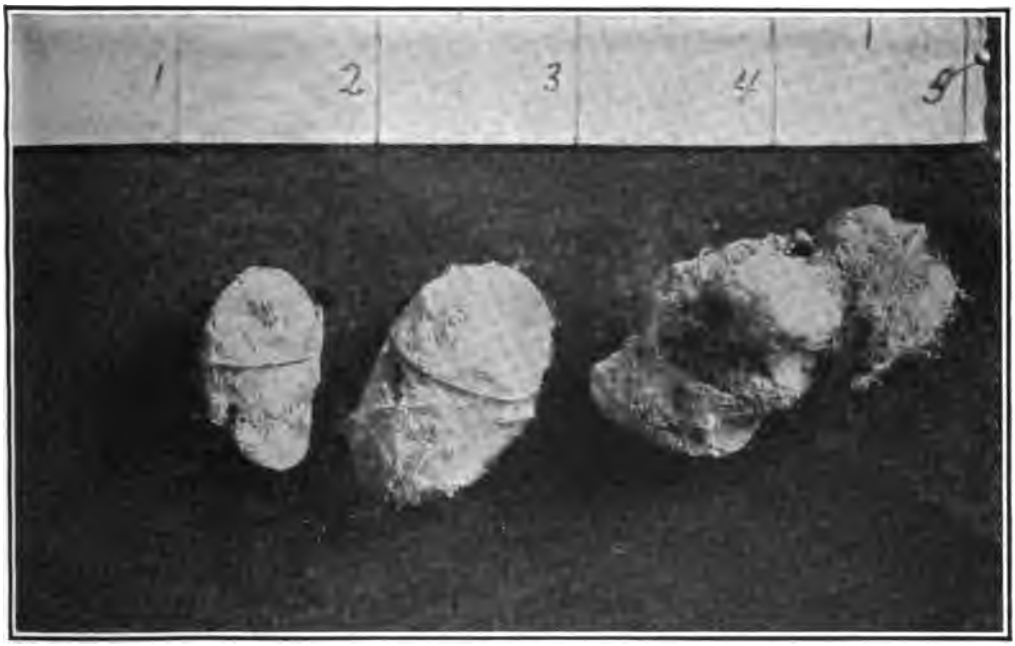
The removal of the kidney, in any case, is a matter that should receive very careful consideration. The indications for a nephrectomy are becoming fewer and rarer, as we understand the dangers of such a removal, and recuperative powers of a crippled kidney if the source of irritation is removed.

4. There exists a special cause for stone development in right kidney. Eighty per cent of my cases have occurred in the right kidney.

5. With a carefully-obtained clinical history, the diagnosis of stone in the kidney is easy.

6. Obscure, persistent pains in region of kidney, in a patient who had a renal colic years ago, should lead to an exploration of the organ.

7. A wound in a healthy kidney heals quickly.



Nephritic Calculi. Right Kidney.

When possible, the stone should always be removed through the parenchyma, as an incision into the upper ureter, or pelvis, will incur more risk in the development of an unhealed urinary fistula.

Deductions.—1. Nephrolithiasis is more prevalent than is generally supposed.

2. A stone having formed in the pelvis of the kidney, if too large to pass, will, sooner or later, produce symptoms demanding its removal.

3. Suppuration in stone cases is, as a rule, a late process, and should be prevented by early surgical treatment.

8. The operation of nephrolithotomy has a very low mortality.

9. Hemorrhage from a kidney is generally easily controlled.

10. At time of operation the patency of ureter should be established.

11. The kidney should not be removed if it has a patent ureter, or unless it be practically destroyed by the disease.

12. *Post-operative* patience and faithful effort on the part of the surgeon will result in the saving of many organs; otherwise removal will be necessary.

Rialto Building.

[Written for the MEDICAL BRIEF.]

Lupus Vulgaris.

BY JOHN V. SHOEMAKER, M. D., LL. D.,

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Among the many patients I have had, there was not one more interesting, nor more typical, than the condition manifested around and over the right ear of a young girl, aged sixteen years, whose case I wish to relate. Nativity, American. Her present state of health, as she claims, is good; but her skin and mucous membrane are pale and anemic; her finger nails, and the white of her eyes, likewise, are in a marked anemic condition. The tongue looks clear, her appetite is good, and her bowels are regular. There is no history of a skin eruption in her immediate family, and her parents, brothers and sisters are all in excellent health. One of her second cousins died of pulmonary tuberculosis; history of cancer is entirely negative. As a child she had measles, mumps, and varicella. Four years ago she had malaria and was confined to bed for a few weeks. Other than these diseases she has never been bed-fast. She is a school girl, her habits are good, except that she drinks a great deal of coffee and tea. The condition of her ear dates back for over ten years, when it began as a small "pimple," soon similar "pimples" appeared near and around the original one, but were larger and softer, even softer than the surrounding tissue. Their color was of a browish-red hue, with a rough surface. Sometimes they are covered with whitish epidermis. These were the characteristic tubercules of lupus vulgaris, which have now coalesced, forming a dull red, raised, soft patch.

The punctate appearance over the affected area is due to the fact that the color of the small, deeply-seated spots in the true skin is observable through the epidermis. These small, deeply-seated tubercles are not painful, or sensible to the touch, nor does she at any time complain of pain. However, at times, especially on a damp, cold day, there is slight itching. Whenever the stage of infiltration, as in this patient, has developed, the lesions, sooner or later, undergo either absorption, leaving behind a desquamating and, more or less, atrophied skin, constituting what is known as lupus exfoliations, or else disintegration and ulceration of the infiltrated skin occurs, forming lupus exulcerans, or exedens. In fact, the lobule of the ear is already much atrophied, and if proper precautions are not instituted, the entire lobule, and even the ear, may desquamate or ulcerate away. Should ulceration occur there would be seen around the ulcer exuberant granulations (lupus hypertrophicus), which, in the course of time, would develop into a papillomatous growth (lupus papillomatosus). It is a strange fact that in a case of so much inflammation, as in lupus, there is little or no pain, unless there is much ulceration. The parts affected most frequently are the nose and cheeks. It may attack the mucous membrane of the nose, but seldom involves the mouth, pharynx, and larynx. Lupus attacks the extremities more frequently than is generally supposed. When it involves the fingers, it is capable of completely destroying those members, yet it spares the matrices, and the nails. As the finger is shortened the nail remains intact at the end of the stump, and may, finally, recede to the level of the metacarpo-phalangeal joint, where it remains in an apparently normal condition. Lupus may also be followed, or transformed, into carcinoma. The vulvo-anal region may also be attacked by the disease, and involve the vagina and uterus.

The diagnosis of lupus vulgaris, as a rule, is not difficult. Its appearance in early life, the mode of onset, the primary spots, which develop into tubercules and ulcers; also, the chronic course it follows, and the unsightly cicatrices, due to the broken-down tubercles, are the chief points to establish a positive and correct diagnosis of the disease. The affections liable to be mistaken for it are syphilis, epithelioma, and lupus erythematosus. I will give the following differential diagnosis, which will readily show the distinctive differences:

LUPUS VULGARIS.	SYPHILIS.
1. No history of infection.	1. History of infection.
2. Usually occurs early in life.	2. Occurs at all ages.
3. Lesions usually confined to the face.	3. Lesions appear in several portions of the body.
4. Tubercles develop slowly.	4. Tubercles develop rapidly and are larger.
5. Ulcers are irregular in shape, tend to coalesce, and are dull red in color.	5. Ulcers are excavated, infiltrated, painful and copper colored.
6. Ulcers discharge slightly with no odor.	6. Ulcers are everted and discharge much foul material.
7. Crusts slight and reddish-brown in color.	7. Crusts many and greenish in color.
8. Scars yellow and hard.	8. Scars white, soft and velvety.

LUPUS VULGARIS.	EPITHELIOMA.
1. Begins early in life.	1. Begins usually after thirty-five years of age.
2. Course slow and not painful.	2. Course more rapid and painful.
3. Many soft nodules.	3. Single hard papule; or it may be a series of papules, as in non-malignant epithelioma.
4. Ulcers superficial, non-everted, soft, with bright red granular tissue, and terminate in cicatrices.	4. Ulcers deep, everted, hard, undermined with fungoid growth, terminates with constitutional impairment.

LUPUS VULGARIS.	LUPUS ERYTHEMATOSUS
1. The gelatinous tubercles are deep seated.	1. The lesion is superficial with no papules or tubercles.
2. Does not affect the sebaceous glands or ducts.	2. Sebaceous ducts are patulous.
3. Lesions discrete and ulcerate.	3. Lesions well defined with scaly patches.
4. Occurs in childhood and youth.	4. Occurs after puberty.

Microscopically, it will be seen that the tubercules of lupus are permeated with small blood-vessels. A deep-seated tubercle of recent origin, will show a sharply-circumscribed infiltration of small cells, with refractive nuclei, in the deeper layers of the corium. Giant and epithelioid cells are also found in abundance. In lupus exedens the glutinous tubercules have undergone fatty metamorphosis and necrosis.

The etiology of this disease is somewhat doubtful. It usually develops during childhood, equally in both sexes, and is neither congenital, nor hereditary. Some observers claim that it is either due to syphilis, tuberculosis, or scrofula, but close observation and clinical experience have shown the error of associating it with syphilis, the history and course of the two diseases having nothing in common, and syphilitic treatment has no apparent influence on lupus vulgaris. On the other hand we find it often associated with tuberculosis and scrofula. Seldom is the tubercle bacillus found in the lupus ulcer, and only in markedly phthisical patients. The best authorities, all over the world, believe that the disease is *sui generis*, and, in support of their view, point out the microscopic pathological difference of true tuberculosis of the skin and lupus vulgaris. It has also been suggested that the comparatively low temperature, and the constant movement of the skin, render it a poor medium for the tubercle bacilli to thrive in and multiply.

The treatment of lupus vulgaris is long and tedious, sometimes resisting the very best treatment in the most skillful hands. It requires both well-directed and persistent measures for its successful treatment. The sanitary and hygienic surroundings should be in the best possible condition. The patient should be properly clad, and the sleeping apartment well ventilated, with plenty of fresh air, and the sunlight allowed to enter the room as much as possible. A change of climate and exercise in the open air and sunlight are of paramount importance, and will often assist in causing some of the most obstinate cases to yield, eventually, in a satisfactory manner. It is essential to employ both constitutional and local treatment at the same time, the former to act against and remove the source of the disease, and the latter to destroy, or, at least, to cause it to disappear, the existing lupoid tissue.

Many of the lupus patients are pale, and anemic, scrofulously or tuberculously inclined, and, perhaps, have not been receiving the proper kind of food; such indications suggest a good, nutritious diet—animal food, with a large amount of milk and eggs. In adult patients stimulants, in moderate quantities, are very beneficial. During the colder months of the year cod-liver oil, in full doses, and long continued, is elegant treatment for this disease.

The case I relate is very anemic, and I will, therefore, place her on a combination of hematinics, containing:

℞ Strychninæ Sulphatis ..... 3/5 grain.
Mangani Dioxidi Præcipitati... ½ drachm.
Ferri Lactatis .....50 grains.

M. Ft. capsule No. 24. Sig.: One capsule four times daily.

Also give her, in addition, nutritious food, and try to improve the hygienic conditions surrounding her. When the weather gets cold next fall, I will place her on cod-liver oil, in full doses. Externally, I will suggest an ointment containing:

℞ Phenolis.....10 minims.
Oleati Hydrargyri..... 1 drachm.
Unguenti Zinci Oxidi ..... 1 ounce.

M. Ft. unguentum. Sig.: Apply locally to affected area twice daily.

The galvanic current of electricity is of service in many cases of lupus. Its stimulating action will hasten cicatrization and destruction of the lupoid tissue. The X-rays will have a similar influence on the morbid tissue, and often healthy cicatricial tissue, over the affected area, will follow; but in my experience I have found that it will either return in the same area, or manifest itself somewhere else over the body. Lupus vulgaris is a constitutional disease, and the use of electricity and X-rays does not effect a permanent cure, but the use of hematinics, such as iron, manganese, and codliver oil, assisted by electricity and the X-rays, is the ideal treatment to follow in these cases.

The prognosis as regards to life and general health of the patient is good. Occasionally, individuals having the disease die of pulmonary tuberculosis. When the disease occurs in small, circumscribed patches, it is more amenable to treatment, and more likely to reach a favorable termination in cure. Cases have been reported cured by an attack of typhoid fever, just as pulmonary tuberculosis may be, and often is, arrested by an attack of typhus fever, or other acute febrile disease.

1519 Walnut Street.

I can not afford to do without the BRIEF, for it is a pleasure to me. Please find enclosed one dollar, for which move me up another year.—J. T. SHYTLES, M. D., Mt. Peak, Tex.

[Written for the MEDICAL BRIEF.]

A Method of Operating in Some Cases of Lacerations of Cervix.

BY JOHN M. WITHROW, A. M., M. D.,

Professor Clinical Gynecology in Miami Medical College; Gynecologist to Cincinnati Christ and Presbyterian Hospitals.
Cincinnati, Ohio.

The operation for the repair of the lacerations of the cervix has been placed in such a secure position by its author, the pioneer in this department of gynecological surgery, that one must hesitate deferentially before presenting even a modification of the old operation.

Trachelorraphy has been placed upon so sure a foundation that no argument is now required to advocate its wisdom, or establish its claim. That much has been extravagantly claimed as to the effect of the laceration of the cervix upon the nervous system, needs no comment.

That many operations have been done for which there was no demand, and the secondary condition of whose subjects was not improved, is also beyond question.

Notwithstanding, however, all of the claims that have been falsely made, and after a great deal of wisdom has been attained through the defeat of the oversanguine claims for the amelioration of the general nervous condition, the operation has come to stand upon a sure foundation, with rather clear indications for its performance, and with but little difference of opinion as to the methods.

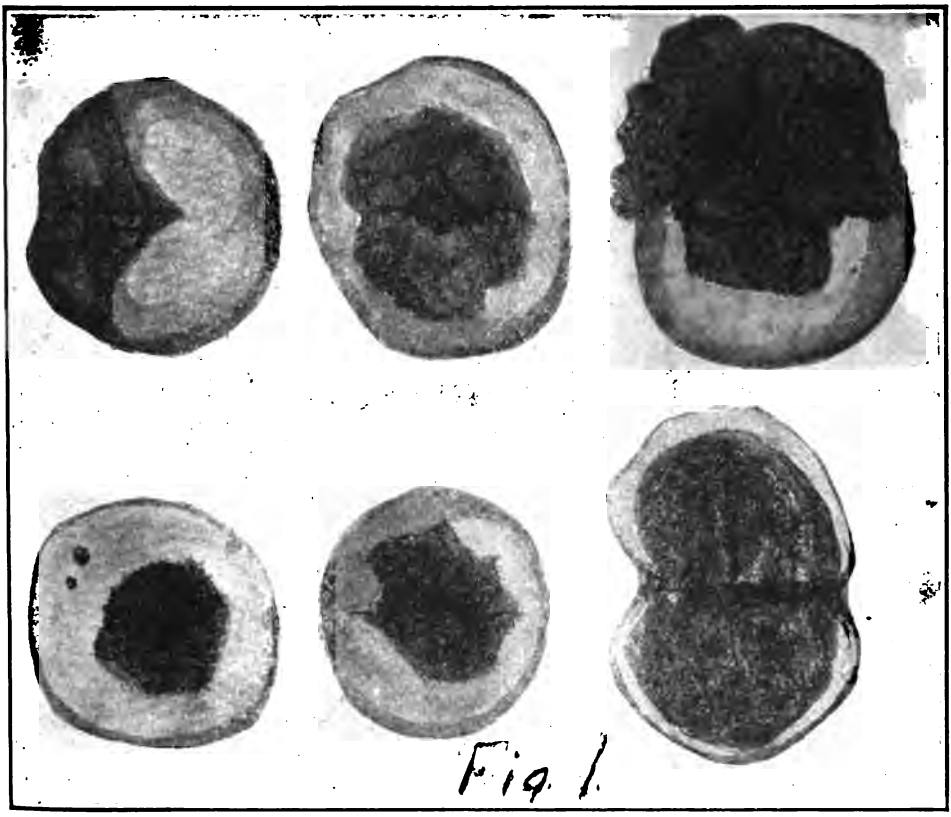
There is, at least, a general opinion that unrepaired laceration of the cervix, associated with great epithelial hypertrophy in nature's effort at repair, is probably one of the existing causes of cancer of this part of the uterus.

When we regard cancer as an epithelial overgrowth, which seems to be the lesson taught by pathologists, it must be regarded with suspicion, and, so far as possible, either prevented or checked.

All authorities upon cancer seem to have learned a common lesson from pathology and clinical history. This lesson is the great predominance of the transitional epithelial of the cervix as a point of origin. This transitional epithelium may be regarded as a hybrid structure, having

neither the morphology of the squamous epithelium of the vagina upon the one hand, nor the columnar epithelium of the cervical canal upon the other.

It is a remarkable and suggestive coincidence that those parts of the anatomy where there is a change from one sort of epithelium to another of different type, or function, are the most frequent situations for malignant disease of the carcinomatous type. In the lip, where there is a change from the squamous epithelium of the skin, to the mucous membrane of the mouth, the pyloric termination of the stomach, as well as in lesser degree at its cardiac extremity, and the anus, are frequently points of attack for malignancy. In each of these situations there is a change, both in the type and the function of the epithelial cell. This point of change is not an abrupt one. Between the typical epithelium on the one hand, and the typical epithelium on the other, there is a zone of transitional epithelial cells that are neither one nor the other. These cells are hybrid in shape, and mixed in function; and, like the hybrid forms both in the animal and vegetable kingdom, less liable to be typical in growth or function. It seems fair to presume that they are more likely, under irritation, to break the laws of typical cells from which they are crossed or descended. In the cervix this zone or transitional epithelium lies at the external os. Fissure of the cervix, therefore, always invades this territory.



The circular structure, that may be called the crown of the cervix, lies directly under this transitional zone. The mucous glands of the cervix all open above the external os into the cervical canal. Whenever the crown of the cervix is torn through, and is not immediately repaired, and whenever there is ectropion or eversion of the mucous membrane, the mouths of the cervical glands in the neighborhood discharge into the vagina, and come in contact with the acid secretion of that

canal. The occlusion of the gland ducts leads to retention cysts. There is general epithelial hypertrophy, and the general clinical picture with which we are familiar, and know by various names.

The increase in weight of the cervix, as a consequence, leads to descent, and the effect becomes cause, and we have a vicious circle.

Whenever a retention cyst is seen upon the presenting part of the cervix beyond the crown, there has been a laceration, no matter how regular and normal the os and cervix may appear. The cau-

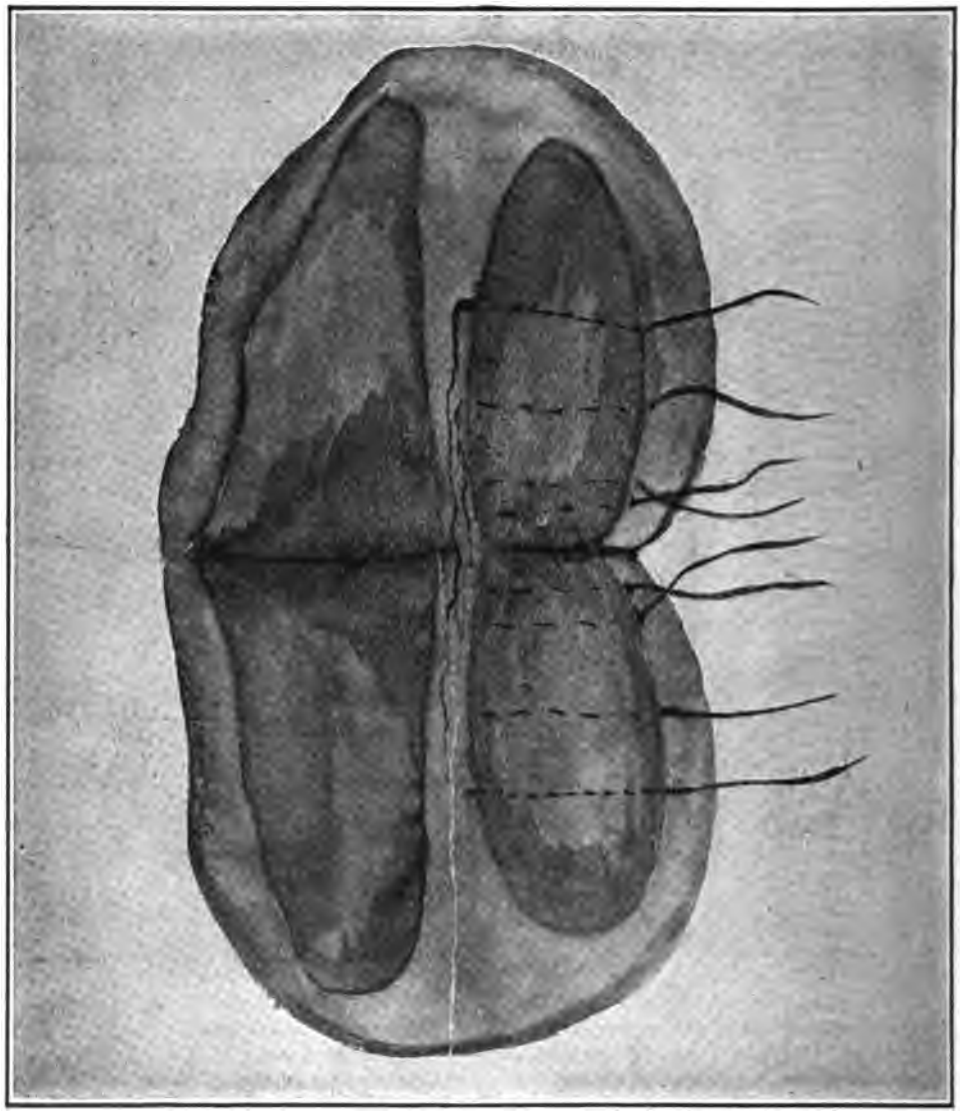


FIG. 2.

ectropic and everted mucous membrane chafes against the vaginal walls.

Erosion, in all its forms, ensues. The efferent flow of blood is interfered with, and subinvolution is established, which spreads to the body of the uterus. Thus, sal rent has been filled, and the cervix smoothed out into good form by a delusive and misguided hypertrophy.

These retention cysts do not occur in the crown of the cervix external to the zone of transitional epithelium. Their

occurrence in this situation means that there has been epithelial displacement in the neighborhood, and such growth must always be regarded with suspicion. The presence of cicatricial tissue in the bottom of the cervical rent, which is usually in muscular structure, may be important; indeed, often is important as a source of reflex disturbance and lateral uterine displacement. It is, however, of secondary importance to the riot of epithelial growth which takes place in the neighborhood of the cervical canal, and in proximity to the zone of the transitional epithelium. Under stimulation and irritation it seems inclined to proliferative overgrowth, and invasion of the underlined tissues.

In the process of natural repair of the laceration of the cervix, which extends to or through this hybrid area, this stimulation or irritation exists, and I believe that the clinical demonstration that it terminates in malignant disease, in many instances, is as clear as any such demonstration can be made.

The pathological demonstration of this process, or this step, from reparative activity to malignant invasion, has never been clearly made, and, perhaps, never can be surely established. The comprehensive statistics on the relation existing between laceration of the cervix and cancer, by Lapthorn Smith, of Montreal, are the most convincing data with which I am familiar.

Almost every other observer of large experience has confirmed the general trend which leads toward the conviction of the causal relation of cervical laceration to cervical malignancy; and at least so suggestive is this general claim, coming from one of much observation, that it justifies the repair of every lacerated cervix associated with even a small degree of epithelial hypertrophy.

In recalling the history of Emmet's operation the purpose for which the repair was first instituted was for the relief of the reflex irritation. It was for the purpose of removing the scar tissue in the first place and restoring the cervix to its normal shape in the second place, that was aimed at in the first operation.

The clinical condition seeking relief was prolonged general debility and neurasthenia. The clinical result sought, in most of the early operations, was the relief of nervous tension, of reflex irritation, said to be producing almost every possible nervous manifestation in the clinical category.

The operation had for its object chiefly the removal of the scar tissue in the apex of the tear, and, incidentally, the removal of the epithelial hypertrophy adjacent to it. The operation has never been changed, nor improved upon. For the purpose intended neither change nor improvement are advisable, nor possible.

Subsequent observation and experience of gynecologists, however, have led to a more general confirmation of the association between laceration of the cervix and malignancy. As a result, perhaps, more operations are done with a view to the prolapsus of cancer than the hope of relieving the neurasthenic conditions.

It goes without saying that there are other indications for the performance of the operation, but these are chiefest among the indications, and the discovery of the tendency to malignancy is more germane to the view which you are asked to take in the selection of the operative procedure necessary to restore a torn cervix.

I present here for your consideration reproductions of the classical illustrations as made by Munde in 1876. It will be seen by these (Fig. 1) illustrations (and their excellency has been confirmed by all of us) that the area of epithelial irritation is rarely, if ever, confined to the margin of the old laceration. It almost invariably extends into the cervical canal; so that in following the classic operation of Emmet, and leaving a path upon the face of each cervical lip, considerable area of diseased mucous membrane is left undisturbed (Fig. 2).

This undisturbed area, which is to constitute the walls of the reformed cervical canal is, therefore, more or less diseased, more or less in a condition of active epithelial overgrowth at the time of operation, and is left in position unchanged after the performance of the classic operation of Emmet.

If we view with proper concern the presence of this hypertrophic area, and

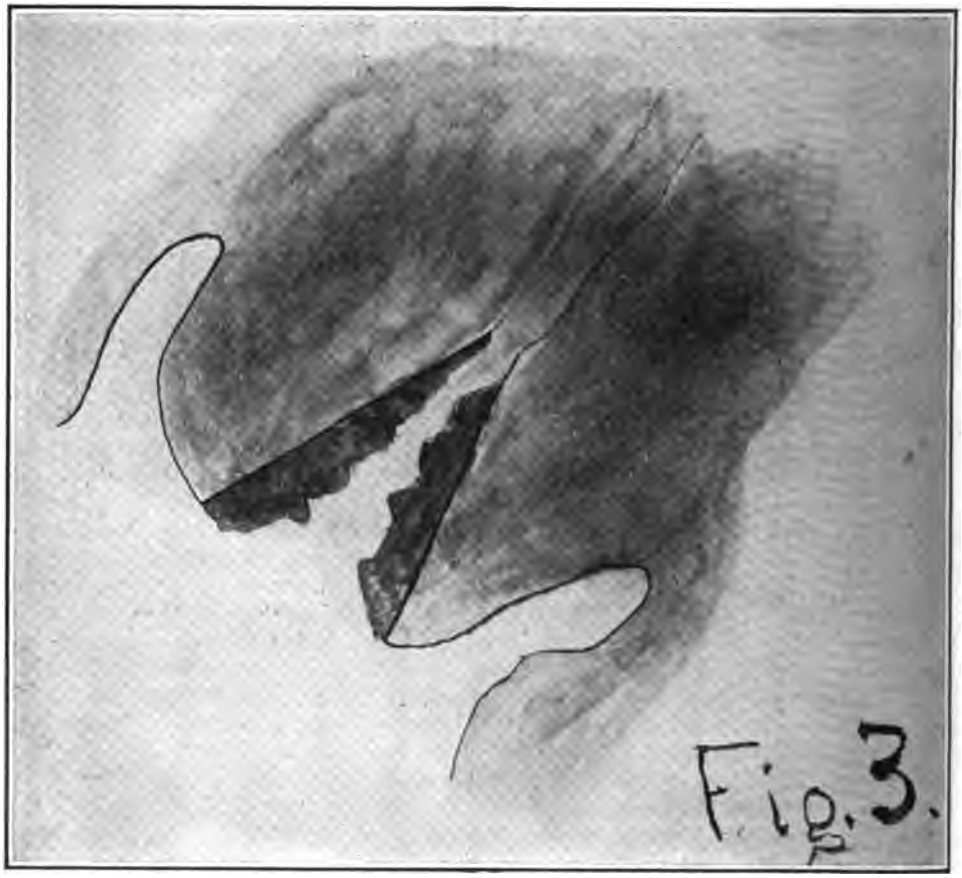
keep firmly in our minds the possibility; indeed, as many of us believe the tendency of this area to become malignant, we will clearly see the indication for the ablation and complete extirpation of the entire zone or track of epithelial disease, as well as the removal of the cicatricial tissue at the bottom of the rent in restoring the lacerated cervix.

With this conception it has been my practice, during the past ten years, to modify the operation of trachelorrhaphy, as devised by Emmet and generally practiced, in such a way as to remove not only the scar tissue, and the hypertrophy of the cervix between the lips of the tear, but that occupying the path usually left for the cervical canal.

As a first step in the operation, after the usual preliminaries of preparation, sound is introduced into the uterus to indicate the normal line or direction of the uterine and cervical canal in cases where this is in doubt, as is often the case where the cervix is much distorted.

The anterior lip is then grasped by a single-toothed volsellum, at a point of the anterior lip beyond the area of disease, and directly opposite the position in which the cervical canal is indicated by the sound.

A similar forceps grasps the posterior lip in like position. The sound is now removed, and the forceps left on the cervical lips during the operation. With a sharp knife an incision is made, beginning at the left side of the anterior lip, at a point below the limit of the laceration, and coming forward and downward along the line of demarcation between the healthy and the sound tissue, and going up to a point on the right side of the cervix above the limit of the tear, or area of disease (Fig. 3).



All of the hypertrophied tissue which lies between this line and the bottom of the rent is now cut away, going deep enough to reach healthy cervical tissue beneath the diseased area.

The posterior lip is treated in exactly the same manner, and in this way a wedge-shaped piece of cervical tissue, varying in size with the amount of disease and laceration in each case, is removed, having in the middle, or near the middle, of its apex the opening of the old cervical canal, really the external os.

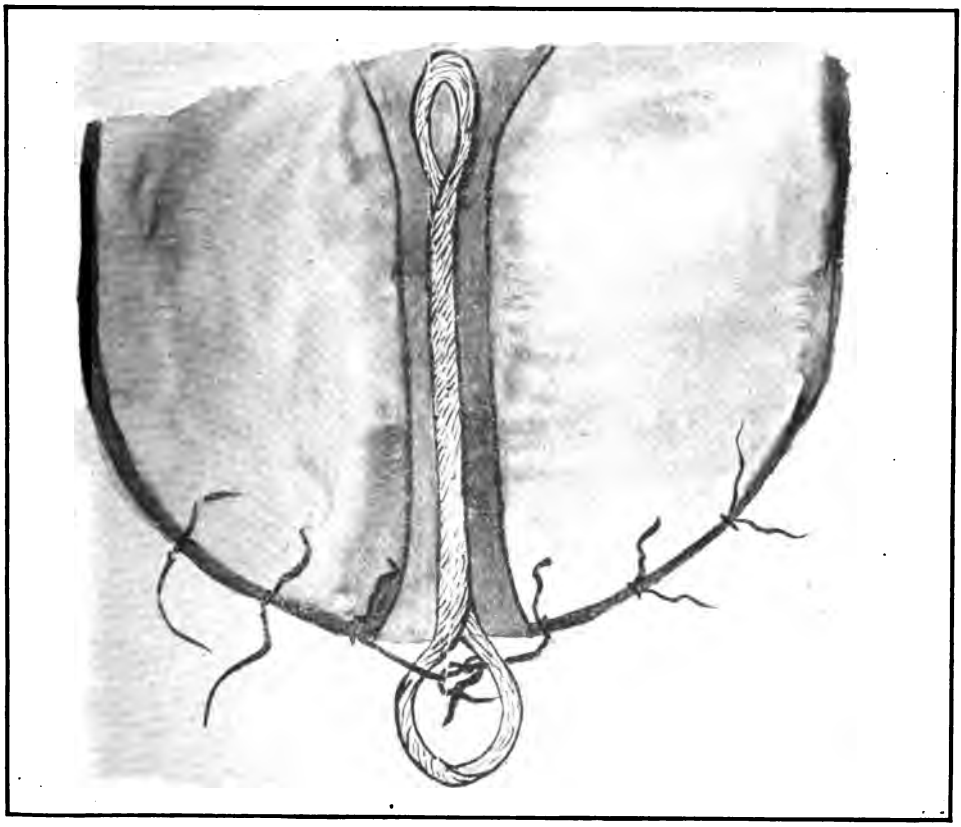


FIG. 4.

In this way it will be seen that both of the cervical lips are laid bare, or denuded, across their entire presenting portion. We then have the equivalent of the Emmet denudation, to which is added the denudation of the cervical path provided for in that procedure.

As will be very readily seen, the denudation in one side will, in almost every instance, be greater than in the other, inasmuch as the tear has been greater on the one side than on the other. And, as sometimes happens, the denudation of the tissue is only required upon one side, going barely or scarcely to the opposite side of the external os at its termination.

The line of incision, as made at the demarcation between healthy and diseased tissue, is made straight enough to admit of accurate coaptation of the two lips, even to the extent of sacrificing a little healthy area. With any sort of needle that may be used for the purpose, these two denuded lips are brought together, the anterior to the posterior. The first line of the incision described on the anterior lip is brought to the second line of incision, described on the posterior lip.

The first suture is introduced at the apex of the rent, and is brought out upon the face of the denudation opposite this point of introduction, reëntering the opposite face of the opposite lip, and carried

cized catgut answers very well, the necessity for removing the cervical drain at the end of ten days compels the introduction of the speculum, when the sutures may be removed, and, therefore, may just as well be of the cleaner and more satisfactory silkworm gut.

Of course, whenever it is indicated, the uterus is curetted previous to instituting the repair, and if for any reason a gauze packing of the uterus is demanded (and I do not believe this necessary very often), the gauze may be used in lieu of the wire drain.

My experience has shown that greater satisfaction is obtained by this method of treating laceration with hypertrophy, than in the Emmet operation. There is less annoying leucorrhea, which I believe is due to the fact that the hypertrophied epithelial tissue left in the cervical canal keeps up the hypersecretion.

The restoration of the uterus to something of its original form is better accomplished in this way than either in the Emmet or Schrader operation.

Subsequent to the Emmet operation, the os is more usually over-patulous than otherwise, leading to a wider cervix, and provoking less involution than in this procedure.

It is also well known that in the Schrader operation, in which the mucous membrane of the vagina is drawn into the cervical canal, lining its interior with squamous epithelium, the cervical canal is of much larger caliber, and the entire diameter of the cervix is greater than that found after recovery from the Emmet operation.

It is, however, clear to my mind that in cases of very extensive laceration, with hypertrophy of the mucous membrane of the cervical canal extending to a considerable depth, the operation here described might, perhaps, leave too large a portion of the cervical canal to be relined; in other words, if the hypertrophy extends up near the internal os, or even within half an inch of it, the depth of the incision necessary to remove all the hypertrophy tissue is so great that the function of the cervical canal, and the cervix in particular, might be interfered with.

If such extensive extirpation is necessary as to make this seem possible, I believe that the Schrader operation should be the one of election.

In summarizing it might be said:

1. The two chief indications to be met in repair of the cervix are: First, the removal of the cicatricial tissue in the apex of the rent. Second, the removal of excessive hypertrophy in and adjacent to the rent.

2. The clinical indications are: First, the extirpation of the epithelial overgrowth in the interest of malignant prophylaxis. Second, the restoration of the cervix to its original form, and the removal of cicatricial tissue for the relief or correction of reflex nervous condition, or circulatory disturbance.

3. Emmet's operation is indicated in cases of laceration without epithelial implication of the site of the cervical canal.

4. The operation here described is indicated in all cases associated with epithelial hypertrophy not invading more than one-half of the cervical canal.

5. Schroeder's operation is indicated in the severer type of this condition, where the hypertrophical invasion includes more than one-half the distance between the external os and the internal os.

22 W. Seventh Street.

[Written for the MEDICAL BRIEF.]

Mushrooms—Edible and Non-Edible, Poisonous and Non-Poisonous.

BY GEORGE W. PLYMPTON, A. M., M. D.,

Emeritus Professor of Physics, Chemistry and Toxicology in the Long Island College Hospital. Brooklyn, N. Y.

It is not necessary that a person should become a scientific expert in classifying mushrooms (or toadstools), in order to avoid the dangers, or enjoy the delicacies which lie along his paths in the country. Only as much skill and care as will enable him to distinguish between the poplar trees and the birches in the forest is required to recognize the difference between the deadly poisonous mushrooms and the harmless ones. The number of species in the former class is, fortunately, so small, and the latter so very large, that the wayfarer along country paths throughout the season, from May to December, need not famish for want of uncooked palatable food. If he will carry a small supply of pepper and salt, and the wherewithal to

this procedure. And I also take much comfort out of the fact that this distinguished mentor of this society, who was so successful in plastic surgery of the cervix, had given this method approval in practice. This device is pushed into the cervical canal, so tnat the loop is held above the internal os, the lower loop emerging at the external os. The sutures are now tightened, and the edges carefully coapted, and the free ends of the suture nearest to the volsellum, upon one side, is

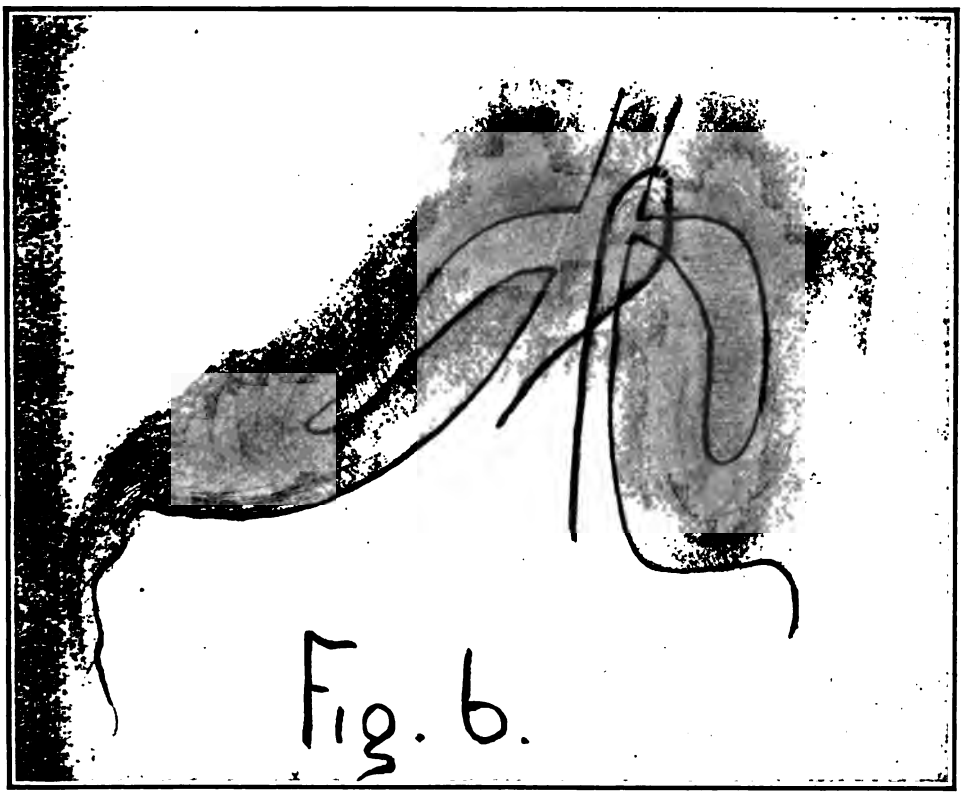


Fig. 6.

carried through the wire loop, and tied to a free end of the nearest suture upon the opposite side.

This anchors the drain, or tent, or whatever it may be called, securely between the two cervical lips at a point in line with the canal of the cervix and uterus, so as to prevent the union between the denuded lips during the progress of recovery.

I have been performing this operation in suitable cases for the past ten years, and it has given greater satisfaction than either Emmet's operation, or Schrader's operation, and without any hindrance to cervical dilatation.

Theoretically, the removal of tissue accomplished in this procedure, should go no deeper than to the healthy tissue in the cervical path. When it is confined to these limits, the tissue removed is no more extensive than occurs in ordinary curettage, in which case we know that the regeneration of the epithelial lining of the cervical canal takes place almost as readily as in the uterus.

All sorts of suture materials have been used in this operation. While chromi-

more formidable and extensive extirpation of cervical hypertrophy. (Figs. 4 and 5.)

At the beginning of my resort to this measure, I felt some fear that the new cervical canal might be, to some extent, cicatricial, and, therefore, lead to difficulties in subsequent parturitions.

Three of the cases thus operated on have borne children under my own attention, and no difficulty whatever was encountered. I have heard of a number of others that have borne children since the

[Written for the MEDICAL BRIEF.]

Chancre of the Tonsils.

BY WILLIAM CHEATHAM, M. D.,

Professor of Ophthalmology, Otology and Laryngology in the Louisville Medical College. Louisville, Ky.

Having seen, in eighteen months, seven cases of chancre of the tonsil, and on speaking to some of my medical brethren about the matter, most of them remembering that they thought the location of the lesion rare, I thought it well to call the attention of the profession to the fact that it is not rare, but rather common.

Bulkley, in his "Syphilis of the Innocent," page thirty, table of localization of extra-genital chancres, in a total of nine thousand and fifty-eight cases the tonsil comes sixth in frequency, with three hundred and seven cases, or three and one-half per cent of the nine thousand and fifty-eight cases reported. I was surprised to see in this table that the lids and conjunctiva claimed four per cent, or one-half of one per cent more cases than the tonsils.

Kyle, in his most excellent work on "Diseases of the Throat," page 464, says: "Next to the genitalia, the tonsillar and pharyngeal sites are, perhaps, the most frequent seats of the primary lesion." Again returning to Bulkley's table we find tonsils and throat together give five hundred and seventy-one cases, which will still place this location as only fourth in frequency, being exceeded by the lips, which come first, in point of invasion, breast and nipple, and the fingers and hands.

We are told that the tonsil is a "physiological wound." This refers, I think, to the tonsillar crypts; they are always open, and the different forms of virus find here an excellent field for invasion, concealment, and procreation. Again, the tonsil is well located for the reception of all the different forms of virus.

I think many cases of chancre of the tonsil are overlooked. If we expect to see a chancre of the tonsil resembling chancre of the male genitals, we will be often deceived. Usually, the size of the tonsil alone decides the size of the chancre, as in the majority of the cases I have seen involved, in the end most or all of the tonsil surface. In my experience the indurated base is not so well marked, or so easily made out, on account of the soft tissue beneath. Again, in chancre of the tonsil there has been, in the majority of the cases I have seen, little or no loss of tissue. The surface is sometimes covered with mucus, which is easily wiped off, but more often with a pseudo-membrane, somewhat elevated above the tonsil surface. So the local appearances are not quite the same. I have never seen a case of chancre of the tonsil that had not existed for several weeks. All the recent cases, but one, had the secondary symptoms.

The seven cases referred to in this paper all had marked and rapid cervical and submaxillary bubos developed, except one. Chancre of other localities were absolutely excluded.

These cases are not cases referred to me in consultation, or such as a matter of interest to see; of the latter class of cases I have seen five in the eighteen months; these included would give me twelve cases of chancre of the tonsil seen in eighteen months.

The books say that the primary sore is not of long duration. One of my cases I saw February 17. He had had a sore throat, with cervical and submaxillary bubo very large, since before Christmas. Kyle, page 465, says: The skin overlying these enlarged glands is not discolored; the glands themselves are felt as firm and freely movable bodies, well outlined, and there is no tendency to suppuration, though the swellings may become quite noticeable. He says the swelling is slow and indolent, involving the glands at the angle of the jaw and sterno-cleido-mastoid muscle, unilateral if one tonsil alone is affected; bilateral if the chancre is double, or one on each tonsil. One of my cases was of this character. The patient was a handsome, beautifully-developed woman, an actress; she had had a sore throat for some weeks. Had been treated by her New York doctor for some time; came here direct from New York to take the place of another actress who was to retire the cast. She had chancre of each

tonsil, with bubo each side of neck, and typical skin eruption. Dr. Windell saw this case and confirmed the diagnosis.

One of my cases, referred to a moment ago as having no secondary symptoms, and but little glandular enlargement, had the chancre located in the posterior surface of the tonsil, which I did not recognize for some time. The skin symptoms came late in this case.

One must remember that secondary eruption may be delayed three or four months, more especially so in my experience, and Bosworth refers to it on page 498, in his work on "Diseases of the Throat and Nose," if this eruption is papular in character. Dr. Evans, of our city, has had one case, an old woman, in whom the secondary skin eruption did not appear for twelve weeks.

On inquiry among some of the Louisville profession as to the frequency of chancre of the tonsil, as seen by them, Dr. I. N. Bloom says he has seen seven cases; Dr. Evans, four cases, three of these in twelve months; Dr. Dabney, four cases; Dr. Taylor, none; Dr. Windell, fifteen cases.

There are, of course, many ways in which the tonsils may become inoculated; the most common is through kissing, the drinking cup, the pipe, the acts of degenerates, and surgical and dental instruments. One of my cases said there were several others in the factory in which he worked with similar sore throats. These may, of course, have been secondary, yet he said they had glandular enlargements similar to his.

Of my seven cases only one was a woman, and that was the case mentioned as having a chancre on each tonsil. All were adults.

The diagnosis of secondary and tertiary syphilis of the throat is usually easy; that of primary not so easy. Of course, the history of exposure in such cases is much more difficult to ascertain. Degenerates will, of course, deny all possibility of an exposure, but when the history of exposure can be obtained it is of much help in the diagnosis of tonsillar chancre.

A persistent sore throat, with enlarged glands at the angle of the jaw and along the sterno-cleido-mastoid muscle, these enlarged glands indolent, movable, with no periadenitis, with no tendency to suppurate, with or without a history of the possibility of infection, with a tonsillar lesion, such as described, with or without the secondary skin eruption, must be looked upon with great suspicion, for in a great majority of cases, we have a chancre of the tonsil. Even with a persistently inflamed tonsil, with the characteristic bubo, with or without skin eruption, one must be cautious as to prognosis.

As to local treatment, nothing can be done to change the severity of the invasion. Local applications of silver nitrate, or cleansing and antiseptic sprays, will reduce the swelling, probably reduce the pain or shorten its duration, and, possibly, prevent the invasion of other forms of virus.

Constitutional treatment should or should not be given, as the physician may believe, as to its effect upon secondary symptoms. My own practice is to wait for secondary symptoms, or my practice is to refer such cases to the syphilographer. Though should I treat the case myself I would wait for secondary symptoms. In the case of double tonsil chancre, in six days, under inunction twice a day, and the daily application of silver nitrate, and a bichloride of mercury and hydrogen dioxide gargle, the throat was absolutely normal, except a small cicatrix on each tonsil, which was difficult to make out, and the glandular enlargement was so small as to be scarcely discernible upon palpation. Another of my cases, an actor who had seen several doctors on the road, who had been treated by them all, with no benefit. Dr. Windell saw this case, also, and treated him.

A case of extra genital chancre, not of the tonsil, however, which I wish to mention before closing, on account of the rarity of the location, was that of a young man. The chancre was in the exact center of the hard palate, about the size of a nickel, and as perfectly outlined. This is the only case I ever saw in this location. Bulkley, page 154, mentions a case of chancre of the hard palate reported by Margannier.

303 W. Chestnut Street.

[Written for the MEDICAL BRIEF.]

Gonorrhea from the Standpoint of the General Practitioner.

BY J. W. HANDLY, M. D.,

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To a patient who has never suffered the discomforts and inconveniences of a gonorrhea, to say nothing of its detrimental effects and sequelæ, this disease is only a simple one, and one that should be relieved in a short space of time. The harm arising from this belief on the part of the patient is only to be appreciated after the disease has lasted for a few days or weeks, after he has used the usual routine prescription of the corner drug clerk, who has presumed to give him some favorite prescription of some special doctor, in whom he has confidence, whether warranted or not. To the general practitioners, who see very little of this trouble, it is not nearly so grave as many other diseases he meets in his daily rounds, and he, too, is inclined to underestimate its severity. But to the specialist, who daily observes many cases, accompanied with many complications and disturbances of the parts contiguous to the urethra, this disease resolves itself into a malady of great importance, one that warrants the closest observation and most serious consideration. It is impossible to say how long the effects of a gonorrhea may continue, but many months after the disease has apparently been relieved, there can be felt an occasional pain or itching along the urethra, or a light mucous floater is detected in the urine collected in a test tube. In these floaters can often be found a few pairs of the usual diplococci, and while these diploccoci can not be found, the fact that the urethra is constantly in a hyperemic state, with a hypersecretion of mucus, indicates the presence of the gonococcus in a dormant state, either in the mucous or sub-mucous membranes, ever ready to appear on the slightest provocation. This provocation may be induced by alcoholic or sexual dissipation, or an undermining of the health by some intercurrent disease contracted since the gonorrhea.

Gonorrhea complicated with syphilis is always more severe and long lasting, since the latter disease lowers the vitality by reducing the hemoglobin and red-blood corpuscles, thereby taking from the system the elements most needed to combat the ill-effects of the disease and restore the affected parts to their normal condition.

Again, after we are sure that our pathology is correct, it is not uncommon that the physician fails to recognize the difference between anterior and posterior urethritis, which fact is most important. To differentiate between these anatomical divisions is a most simple process, and certainly a most necessary one, since the treatment is essentially different. Anterior irrigation of the urethra with clear water and collecting the first urine in a test tube, clears the diagnosis to a certain degree, especially if the microscope is called into requisition. Purulent urine, however, does not necessarily mean posterior urethritis or cystitis, but, associated with an anterior urethritis, brings about a reasonable assurance that some of the deeper parts are affected. The prostatic follicles, seminal vesicles, epididymis, may be involved, still you have a posterior urethritis. Again, sympathetic pains at the vesical neck, superinduced by a nephritis or pyelitis, with renal calculus causing a muco-purulent urine, may be mistaken for a posterior urethritis and treated as such. This has been my observation in several cases which have received the close attention of eminent men, who carefully looked into these cases and failed to get good results. I was deceived in this way in one case some years ago, in which I afterwards operated and found two large renal calculi. All vesical symptoms disappeared and urine cleared, as soon as he recovered from the operation.

Tuberculosis of bladder and malignant disease must not be overlooked in making a diagnosis, since the presence of these two diseases would be apt to show their marks in other organs of the body by cachexia and other general disturbances; they can be readily eliminated.

Gonorrhea lying dormant in the various folds, ducts and glands of the urethra, chronic vesiculitis, chronic epididymitis and cystitis may account for the reinfection of the urethra, with its morning drop, and urinary flakes to the free mucopurulent secretion. This condition gradually improves under reconstructive treatment and proper hygienic and sexual surroundings.

Treatment.—Inspection of the genitals is always imperative. Abnormalities and anomalies often exist, which have a bearing on the treatment to be followed. Several times I have seen patients who had been treated for gonorrhea when no such condition existed, but merely a simple balanitis sequel to a phimosis. The profuse discharge was mistaken for a urethral secretion by the patient, who told his physician that he had gonorrhea, which statement was accepted by the physician.

I regard frequent microscopical examinations of the secretion a most important measure in carrying out your line of treatment. Any power less than one-twelfth objective—twelve hundred diameters is practically worthless for a clear diagnosis. Gram's test may be used when absolute certainty as to the condition is demanded. Ordinarily, I rely upon the single methylin blue stain, by which the gonococci can be seen in the pus cells between the latter, and in the epithelium, according to the stage of the disease. They are usually found in groups, but may be scattered all over the field of vision.

Dietetic treatment is of some importance in some cases, but, as a rule, patients may be permitted to eat moderately of any food they wish, avoiding as far as possible highly-seasoned and stimulating foods. The complete cessation of alcoholic stimulation is demanded, and the reduction to one or two cigars daily in heavy smokers, or complete abstinence in moderate smokers.

Proper attention to the bowels is indicated in many cases. Constipation accompanies this trouble, improper secretion is caused by the general systemic disturbance. Free use of distilled or other pure waters is important; free diuresis acts as an irrigation, and hence normal urine is in no sense an irritant; frequent micturition is palliative and soothing to the injured urethra. In cases advanced to the stage of chordee and profuse purulent discharge, especially if the posterior urethra is involved, it is best to resort to some form of sedative—bromide of soda, in from thirty- to sixty-grain doses. This usually allays the irritability of the deep urethra and verumontanem, quiets the sexual excitement and prevents too frequent micturition, so often seen at this stage. If bromides fail to relieve, we may carefully resort to some preparation of opium, giving as little as necessary to relieve the symptoms. Alkaline diuretics are not indicated, as was formerly believed. Experience has demonstrated that alkaline urine is more irritating than acid urine, and that very light acid urine is less irritating than neutral.

The balsams and essential oils are not indicated in the early stages of gonorrhea, but later do most efficient service in abating the pains and amount of secretion.

To presume to give a specific local remedy for gonorrhea is not in my power. So numerous have been the remedial agents used that we can almost say that nothing has been omitted. The various silver salts have come to the front, have been tried and fallen into disuse, with but few exceptions.

714 First National Bank Building.

[Written for the MEDICAL BRIEF.]

Oral Hygiene.

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The members of the medical profession are rapidly, but not too rapidly, realizing the importance of oral hygiene in the treatment of many digestive disorders. The ideality of the mouth as a culture oven for fungi is now fully recognized. Most pathogenic micro-organisms flourish best at a temperature of 37° to 38° C. (98.5° to 100.5° F.), a temperature maintained by the oral cavity. Moisture, another prerequisite to their propagation,

is there present in abundance. Food, another necessity, is never lacking, and it, therefore, only remains for the organisms to be endowed with primary vitality, that all the conditions necessary for their growth and performance of function be fulfilled.

Food for fungi in the mouth is found in the mixed saliva, the secretions from the mucous glands, carious tooth structure, dead epithelial scales, exposed and decomposing pulps, ulcerous mucous membrane, gum tissue and periosteum, and in food debris about the necks of teeth, between the proximating surfaces and crowded into fissures, sulci and carious cavities of the crowns.

Miller* has isolated over one hundred cultivatable varities of fungi from the mouth. He asserts that practically every known pathogenic micro-organism will be found in any mouth, if the search be persisted in. Many of these are accidental, and may only be found for a brief time, it is true. The writer has developed as many as eighty thousand colonies from one-sixth cubic centimeter of spittle, obtained by rinsing the mouth with fifteen cubic centimeters of sterilized water, this at the end of four hours after cleansing the mouth thoroughly with waxed floss silk and tooth brush, and one hour after using fifteen cubic centimeters of a one to two hundred solution of a forty per cent solution of formaldehyde gas in water, as a mouth wash. It is true this was unusual, and that from five to fifteen thousand were more often obtained. But, on the other basis of eighty thousand, the spittal alone contained seven million two hundred thousand micro-organisms, without taking into account the hundreds of thousands still adherent to the various tissues in the cavity. While most of these are non-pathogenic, many of them are pathogenic.

Experiments have proven that the stomach juices are not germicidal. Over three hundred and eighty thousand colonies were developed from one milligram of fœces, after a meal of mixed food, and only ten thousand four hundred colonies after a meal of sterilized food, showing the successful passage of the stomach, in a state of vitality, of the organisms. The swallowing of food and drink, and of the saliva itself, carries immense numbers of fungi from the mouth to the remainder of the alimentary canal every twenty-four hours. That some of these are capable of mischief-making in the intestines can not be doubted.

It is a practical impossibility to sterilize the mouth, and it is doubtful whether such a procedure would be desirable, but the presence of enormous numbers of micro-organisms carries with it a proportional danger of pathogenic ones being taken into the intestines in large numbers.

This view of the desirability of oral cleanliness as a factor in the treatment of enteric troubles does not take into account the obvious and established advantages derived from a sound set of teeth, set in healthy alveolar process, and surrounded by normal mucous membrane, a condition permitting the perfect mastication and insalivation of the food. The importance of perfect fulfillment of this first step in digestion is fully appreciated, I am sure.

131 E. Ohio Street.

* Micro-organisms of the human mouth.

[Written for the MEDICAL BRIEF.]

Tuberculosis.

BY J. H. TANQUARY, M. D.,

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Tuberculosis is an infectious disease, caused by the tubercle bacilli. It is the most common of the fatal diseases. In the past one of every seven deaths have been from it. Recent investigations have demonstrated that it is not confined to man alone, but that it causes death in almost all of our domestic animals, and has been found even in fish, snakes, and other cold-blooded animals. No race of human beings is exempt from its ravages. It is especially common among the American Indians, negroes of the United States, and the Esqimo of the far North. While it is more prevalent in some regions, the disease has been found wherever man has traveled. In some of the high altitudes, where the atmosphere is rare and dry,

the fatality from tuberculosis is very low; in other locations, especially in low altitudes, with moist climates and sudden changes of temperature, the death rate is very high. In Southern countries, where the inhabitants live mostly out of doors, and where the atmosphere is dry and clear, the mortality is extremely low. The bacillus tuberculosis, the real cause of the disease, was discovered by Koch about twenty-two years ago. Since then other pathologists have added much to the knowledge of the etiology, pathology and treatment of this disease. Heredity is not considered so important a factor in this disease as was recently the case, and the children of consumptive parents may not only escape the disease by proper prophylactic treatment, but live long and be perfectly healthy.

The germ is introduced into the system largely through the alimentary and respiratory tract. After introduction into the system, the germ may be taken up by the blood vessels and transported to any tissue of the body. Perhaps no other disease has been found in such a wide variety of tissues; in fact, there is scarcely a tissue of the body which has not been invaded by the tubercle bacillus.

Some of the common forms of the disease are pulmonary tuberculosis, with its two forms, and tubercular lymphadenitis, adenitis, meningitis, osteitis, and arthritis.

The general management of this disease may be considered under four heads.

The prophylactic treatment is, perhaps, the most important, as it is by this treatment we secure for the child, with an hereditary tendency, the strongest constitution, by means of plenty of exercise in the open air, good food, supplemented by such calisthenics and gymnastic work, under proper surroundings, as will aid in building up a healthy body, and thereby keeping the resisting powers in such condition that they will be able to overcome these germs when introduced into the system.

The medical treatment is not now so extensive as formerly, but it still has a place in the management of this disease. Eliminatives, including mild doses of mercury, are useful in many cases where the tongue is coated and the breath foul. Restoratives, such as codliver oil and other remedies calculated to build up the system, are beneficial. Strychnine is, perhaps, one of the most valuable of remedial agents in this connection. But it must be remembered that sunlight and fresh air, and the out-of-door treatment are our strongest remedies in combating this disease.

Mechanical treatment, by limiting motion in cases of tubercular arthritis, ostitis or spondylitis, if the diagnosis has been made at an early stage, is sufficient to bring about a permanent cure without deformity.

Operative treatment sometimes has a place where the osteitis begins in the medullary cavity of the bones, and where it is penned up so that drainage can not be obtained in any other way. Operative interference in tubercular arthritis is seldom required where due diligence has been used in carrying out mechanical treatment. However, mechanical and operative treatment in tubercular arthritis and osteitis should always be in the hands of a competent orthopedist, or general surgeon.

930 Belt Avenue.

[Written for the MEDICAL BRIEF.]

Some Affections Benefited by Hot-Water Bathing.

BY BLAIR D. TAYLOR, M. D.,

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Among the many affections benefited by the hot waters of this locality, subacute and chronic rheumatism, rheumatoid arthritis, subacute, chronic and muscular gout, appear to respond most readily to treatment. In my experience these cases improve, if not entirely recover, in from six weeks to two months. Cases of synovitis and diseases of the joints do almost equally well, while patients with locomotor ataxia improve, but do not recover. The waters acting as an eliminant through the skin and bowels, are naturally beneficial in all subacute and chronic disorders.

The treatment consists almost wholly in a system of baths, which are designated as follows:

1. *The Ordinary Bath.*—The patient is undressed in a room temperature of 80° F., bath room temperature 98° F. After drinking a glass of hot water the patient is kept in the tub (water 98° F.) for ten minutes, then rubbed thoroughly dry, returned to the dressing room, and covered with a light blanket for about twenty minutes. The effect is sedative, or mildly stimulating. This bath is indicated in all subacute and chronic disorders, except such wasting diseases as tuberculosis, cancer, advanced Bright's disease, diabetes mellitus, weak heart, and organic lesions. It is indicated in skin diseases, neuroses, ptyalism from mercury, aiding in the elimination of potassium salts in action, incipient, or subacute nephritis. Contraindicated in advanced locomotor ataxia and amebic dysentery.

2. *The Sweat Bath.*—Patient is kept in tub of water (temperature 98° F.) for eight to twelve minutes, drinking hot water freely; returned to vapor cabinet from one to three minutes. Rubbed well a second time and wrapped in blanket pack for ten to twelve minutes in bath room, followed by shower bath of the same temperature as tub bath; dried and allowed to lie in dressing-room under blanket for twenty minutes. This treatment is indicated in neuroses, elimination of toxins and drugs, syphilis, etc. Contraindicated in the same cases as ordinary bath.

3. *The Tonic Tub Bath.*—Patient enters tub of water (90° F.), which is quickly raised to 98° or 100° F.; remaining in tub eight to ten minutes, drinking freely of hot water. Vapor bath, one to two minutes, then brisk rubbing, followed by circular and rain douche for six seconds. The effect is tonic and stimulating, and is indicated in neurasthenia, anemia, neuritis, malnutrition, and functional gastric intestinal disorders.

The Massage or Douche Baths include:

1. The circular needle douche, at varying temperatures and times. Indicated in neuritis, neurasthenia, anemia, and cardiac complications.

2. The rain shower douche, generally combined with the needle douche, and useful in same class of cases.

3. The Scotch douche, consisting in alternating jets of hot and cold water at varying times and pressures. Indicated in sciatica and applied above the seat of pain; tabes dorsalis, etc., combined with coördinating movements.

4. The Charcot douche. This is a jet douche of either hot or cold water, applied to the spine, either intermittently or continued, and at varying times and pressures. Indicated in tabes dorsalis, multiple neuritis, neurasthenia, and neuralgia of spinal origin.

5. The perineal, or prostatic douche. Varies in temperature and pressure; indicated in prostatic irritation and enlargements, spermatorrhea, and chronic constipation.

6. The liver and lubar comb. douche. Varying temperatures. Indicated in lumbago, renal disorders, and hepatic diseases, subacute or chronic.

7. The sitz bath. Indicated in chronic constipation, vesical and prostatic disorders.

Massage is indicated in all chronic rheumatic conditions, whether arthritic, or muscular; in stiffness of the joints from whatever cause, in sciatica, general neurasthenia, enlargement of the liver and spleen (where there is not too much tenderness), chronic constipation. Massage is also useful in subacute condition of the same nature as above, when the soreness will admit of it. This therapeutic agent should never be used in acute conditions.

Static electricity is useful in all chronic conditions mentioned under the head of massage, but should not be used in acute or subacute diseases. Care must be taken to wash out the kidneys thoroughly before stimulating the skin too freely, otherwise the urine, being concentrated, the debris is not sufficiently dissolved, and the kidneys become clogged, and the skin, by assuming too long the function of the kidneys, leaves them helpless to resume work when they are absolutely needed. A proper balance between the excretions of the organs mentioned can best be obtained by drinking freely of the thermal water (eight to ten glasses a day may be taken), and this procedure is one of the most valuable forms of our treatment. To be effective the water should be swallowed

as hot as it can be borne, and directly from the conduit.

The urine is frequently examined, and the amount of solids estimated. The number of ounces of a twenty-four-hour collection is multiplied by the last two figures of the specific gravity observed, and to this is added ten per cent. This method approximates nearly the truth and gives, in grains, the total solids excreted.

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[Written for the MEDICAL BRIEF.]

The Artificial Feeding of Infants.

BY CHAS. R. SOWDER, M. D.

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The importance of a study of infant feeding is readily seen by a glance at the mortality statistics for the first five years of life. In England, where there is an accurate registration of births and deaths, statistics show fifteen deaths in every hundred infants in the first year of life, and between four and five deaths in the first month. Quetelet states that almost as many children die in the first month as in the second and third years combined. New York records show that fifty per cent of the total number of deaths occur between the first and fifth years, and twenty-six per cent under one year. Many factors contribute to this frightful infant mortality, among which may be mentioned congenital malformation, natural lack of resistive power, susceptibility to infectious diseases, unhygienic surroundings and improper feeding.

Of the causes mentioned, that of improper feeding is probably the most responsible. We will grant that the mother's milk is the proper infant food, but many circumstances combine to make us rely on other substances. Dr. Chapin remarks that any substitute for breast milk that is put into the infant's stomach is a foreign body. It is a noteworthy fact that the ratio of mothers who can not nurse their infants is rapidly on the increase, and the number who can, but will not, is equally large. We again naturally turn to infant feeding as the predominating factor in the great death-rate of infants at the present time. I think it will be granted that that food is most conducive to health which most nearly approaches mother's milk, chemically and physiologically. The many artificial foods placed on the market have their field, but in no way can they take the place of modified milk, as they have nothing in common with the natural infant food. These artificial foods may be divided into two classes, viz., those derived from cereals, and those that are made by condensing milk. In the first class we find they invariably contain a high percentage of starch, much of which is not soluble, and which, on account of the feebleness of starch digestion in the first three months of infantile life is practically undigested in the infant's stomach. The second class is usually rich in sugars, notably cane sugar, as well as having a high percentage of proteids. The difficulties of digestion in this class of food, with the diseases that arise from faulty nutrition, are sufficient to condemn their use. The children constantly fed on these foods bear the marks of excessive carbohydrate feeding. This is shown in the pendulous abdomen, the doughy feel of the skin, the excess of fat, deficiency of flesh, and their exceedingly low resistive power. They succumb to the first inroads of disease, and it is this class of artificially-fed infants which go to make up the high mortality list. It is only within the past few years that special study has been given to a proper infant diet. Smith, in his work, "Diseases of Children," published in 1896, although he mentioned cow's milk as the nearest approach to the natural food, gives but very meagre directions as to its use. It has remained for American pediatrists to develop a more perfect system of modified feeding, and we are, perhaps, more indebted to Rotch for his work in this direction than to any other modern writers. So well have we succeeded in modifying cow's milk that Dr. Booker, of Baltimore, maintains that there is no infant that can not be fed on the modified milk that is capable of being nourished at all. It has only been since the institution of percentage feeding that such a claim for modified milk could be made. A proper

knowledge of the proportion and preservation of cow's milk is necessary to secure perfect success in this method of feeding.

The most recent text-books on diseases of children will give a chemical analysis of both human and cow's milk. It will be noted that there are several important differences in the composition of the two milks, and that simple dilution of cows' milk will not make it similar to human milk. Cow's milk is normally acid, with a high percentage of proteid, and a low percentage of sugar, and it is also deficient in many elements conducive to the nutrition of children, chief of which is lecithin, which has to do purely with the nourishment of the nervous system. Of the proteids in cow's milk 2.88, or four-fifths, is casein. In human milk the total proteid is 1.82, about two-thirds of which is whey, and 0.53 casein. This, to my mind, is the most important fact in the comparison of the two foods. The question, in modified feeding, is to get a food in such a proportion that the several ingredients will most nearly resemble those found in human milk. The strictly aseptic laboratory method best approaches this. The difficulties to be overcome are the securing of creams of definite percentage, and of intelligent nurses and mothers to carry out our instructions. It is of vital importance that we know the composition of the milk used. Knowing this, it is not a very difficult matter to obtain a definite percentage of cream. A quart of average milk put on ice for four or five hours will enable us to get ten ounces of eight per cent cream, and after six hours six ounces of twelve per cent cream. Ladd, of Philadelphia, has produced a chart for the dilution of milk, which answers nearly every purpose. In the use of a twelve per cent cream, its dilution with water to four per cent cream would reduce the sugar to about 1.01 per cent, and the proteids to about 0.80 per cent. It is necessary to further modify the sugar and proteid percentage, so as to bring them to the standard of human milk, and this can be done by the addition of skim milk and milk sugar.

An intelligent study of the modified milk feeding, with close attention to the result of this feeding in each individual case, will enable us to surmount almost any difficulties which may arise. Observation of the stools of the infant will serve as a guide in varying the percentage. When vomiting or regurgitation occurs one or two hours after eating, it indicates an excess of food. The presence of dry, hard stools indicate too little fat. The presence of curds in the stools is the most reliable indication of excess of proteids. To break up the tenacious curd, which occurs in many cases, we may use dextrinized gruels. These may be made of rice, barley, or oatmeal. I prefer, however, during the first four or five months, to dilute the cream with whey, getting, by so doing, more of the soluble proteids. The use of sterilized milk will ultimately work harm to the infant, and should not be used where a pure milk supply can be had, except in diseased conditions of the gastro-intestinal tract, owing to the indigestibility of the food and the fact that sterilizing modifies its constituents so they are of less use to the child.

323 N. Delaware Street.

[Written for the MEDICAL BRIEF.]

Is The Vaccination Shield Worthy of Employment?

BY LEON L. SOLOMON, A. B., M. D.,

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The question of the employment of a vaccination shield is one which at this particular season merits the consideration of the general practitioner. The writer has for some time considered it improper to use the shield, and during the past three seasons has never employed one until the vaccination, or, better still, the pustulation has occurred.

Unquestionably the employment of the shield immediately the lymph has been introduced results (where a "take" has occurred) in unnecessary inflammatory reaction, sometimes in deep-seated destructive process, and if the observation be correct, many times where the virus fails to "take" the cause lies in this immediate application of the shield.

Now let us see why such is the case: My belief is in instances associated with very considerable inflammatory reaction, if not destructive ulcerative process, the localization of the infection—for such the vaccination really is—comes about primarily because of the interference with general circulation, which the application of the shield produces.

Unquestionably the shield does make pressure, this pressure kept up for a period of a few hours immediately following the application of the lymph, and then for several days, during which the local condition is incubating, must necessarily amount to the creation through additional irritation, of a largely augmented blood supply. Were no lymph introduced, the mere fastening of an ordinary vaccination shield would naturally result in more or less localized vascular changes, which, continued over a period of hours and days, would finally institute such changes as might readily become pathologic. Following the scarification then absorption of lymph by means of the vaccine point, or whatever way the vaccination be accomplished, the result must necessarily be the same, and I maintain the observation as made must be correct.

In my practice the shield has no place until the certainty of the "take" is assured. As a rule, then the shield can be dispensed with; my plan being to attach by means of safety pin, or otherwise, a thin piece of soft linen to the inner side of the sleeve covering the arm; in this manner after the lymph has thoroughly dried in, the scarified part is protected from unecessary friction with the under garments, at the same time kept clean.

For the same reason that the shield works harm, I think bandaging of the part is improper, this interfering with the absorption, whereby the "take" is less likely to occur than otherwise.

You may ask why the vaccination fails in cases where the shield is employed; very likely the conclusion that such be true has been justified by my own observations, though possibly this statement is not wholly correct. As already put, if the statement be correct, the reason seemingly lies in imperfect absorption because of the pressure from the shield, which interferes with circulation. It is possible for the lymph to remain *in situ* until it has been destroyed, if not by contact with the air and external environments, then possibly and more likely, by certain antitoxic bodies, or units let us call them, which very promptly come to our rescue in numerous instances following slight or considerable infections. In other words, to make the subject matter plain, just as the surgeon often escapes severe localized infection when in contact with virulent materials, by reason of the fighting forces within his lymph channels, just so in the instances of vaccination, lymph kept localized within the part, its activity is likely to be nullified.

932 Third Avenue.

[Written for the MEDICAL BRIEF.]

Some Remarks on the Differential Diagnosis of the Ocular Manifestations of Tabes and Cerebro-Spinal Syphilis.

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In the beginning the ocular manifestations of tabes and cerebral syphilis are very similar, but the pathologic conditions are radically different. In tabes, as accepted to-day, we are confronted by a primary degeneration, either of the ganglia at the base of the brain, or the ganglia connected with the posterior nerve roots of the cord; whereas, in cerebral syphilis the condition, as a rule, is an exudative meningitis, either of the convexity, or of the base. In consequence of these differences one can readily see that in tabes we would meet with isolated paralyses of ocular nerves, even branches of a single nerve; while in cerebral syphilis the lesions of the ocular nerves would be multiple and widely diverse. In tabes one is dealing with the results of either acute or chronic toxemia, which, by the majority of observers, is looked upon as due to syphilis. But the view is rapidly gaining ground that other forms of auto-intoxication, as observed in gout, and in infectious diseases, such as rheumatism, and particularly grippe, may produce such vio-

lent insult to the ganglionic nerves as to lead to their primary degeneration and death. As to the outcome of these differences in cause (one being the result of active intoxication, long continued, and the other due to the exudative product, which simply produces symptoms arising from pressure), one can readily understand why tabes should not yield to treatment, and cerebral syphilis be rapidly amenable to treatment.

The text-books, almost without exception, teach that ocular paralyses in tabes are fleeting. Such has not been my experience. I have never as yet observed an ocular paralysis developing during the course of tabes disappear under any form of treatment, and the very fact that it does not clear up, where the diagnosis is in doubt, is, to my mind, confirmatory of a diagnosis of tabes. Not that the diagnosis can not be made from other than ocular symptoms, but it so frequently happens that the first symptoms which attract the attention of the patient are ocular manifestations.

About fifteen or twenty per cent of the cases of tabes develop ocular symptoms in the early stages, when none of the other symptoms, such as loss of the patellar reflexes, Romberg's symptom, the gastric crises, have as yet developed, and we find, as the only manifestation, an ocular paralysis, such as ptosis, paralysis of the external rectus, or paralysis of accommodation, or of the pupil. It then becomes a matter of importance to decide what this ocular paralysis means, inasmuch as it surely ought to be recognized that this is only one symptom of a general disease, which will, sooner or later, develop the classic picture which we have been taught to recognize either as tabes, cerebro-spinal sclerosis, or cerebral syphilis.

Naturally, it also becomes a matter of prognostic import to be able to determine whether the condition present will be amenable to treatment or not. These diseases, early in their course, are so closely allied, so far as ocular manifestations are concerned, that at times the only method of finally determining is to place the patient under antisyphilitic treatment, and if, after a course of several months' treatment, the manifestations continue the chances are more than probable that we are dealing with a case of tabes. Whereas, if the condition clears up rapidly under this treatment, the case is one of exudative meningitis at the base. The ocular symptom upon which most reliance has been placed in tabes, aside from the ocular paralyses, is the Argyll-Robertson pupil, and if, in conjunction with this, there is loss of the patellar reflexes, Romberg's symptom, or gastric crises, there can be no doubt as to the diagnosis. Whereas, in cerebral syphilis one finds most frequently, as stated above, a great multiplicity of ocular paralyses, usually involving both eyes, different nerves being involved in both. Not only this, but one may find other cranial nerves involved, the trigeminus, the facial or auditory nerve. Accompanying this involvement there are headaches, nausea, vomiting, somnolency, and not infrequently paralysis of one or more of the extremities.

Where the general manifestations are present the diagnosis is not difficult, but where, in the beginning, the ocular symptoms are alone present, one must be somewhat conservative in reaching a definite conclusion. In tabes the symptoms having once developed do not progress rapidly, and remain fixed, while in the cerebral syphilis, following the ocular paralyses (if these do not yield to treatment) a multiplicity of ocular, as well as general symptoms, develop in rapid succession, and, subsequently, disappear with the same rapidity, under appropriate treatment. For this reason I have been loath to accept the dictum that ocular paralyses in tabes are fleeting, and it has also led to the conclusion that in treating tabetic paralyses one is not following a rational course in using antisyphilitic treatment. True, syphilis in the large majority of cases is the basis of the trouble, but the damage to the neurons has been accomplished, and when the patient presents himself with a paralysis of one or more ocular muscles, it signifies that the ganglionic cells have degenerated, and it is not reasonable to expect that antisyphilitic treatment will restore degenerated cells. The condition is a primary atrophy, and there is no hope of restoring such

cells as are dead. The tonic treatment is the only rational one, and the upbuilding of such cells as may retain some vitality. In cerebral syphilis we are dealing with an acute exudative product, which is rapidly absorbed under antisyphilitic treatment, and in that way relieves pressure on the nerves, which, being accomplished, they rapidly reassume their function.

Blindness in the course of tabes is not of infrequent occurrence. Its development is slow and at times, where only one eye is affected in the beginning, it is entirely overlooked by the patient until some other ocular manifestation leads him to consult an oculist. The ophthalmoscopic examination, or the taking of his field, and his field for colors, will often reveal conditions of which the patient himself was unaware. Loss of the color sense, particularly for green and red, is an exceedingly important symptom, inasmuch as it may precede the contractions of the field for a considerable length of time, even years, and as the general contraction of the field goes on slowly, central vision being retained, he may not be conscious of his defect until vision is almost gone. Here we are dealing with a primary atrophy, so-called descending atrophy of the optic nerve, which, from more recent studies, is now looked upon as due to a primary degeneration of the ganglion cells of the retina. Opposed to this, in cerebral syphilis we are confronted with sudden blindness, of which the ophthalmoscope may give us no explanation whatever, or one finds an optic neuritis in one or both eyes. These cases of sudden blindness are of short duration, and clear up very rapidly under treatment. The optic neuritis stands in direct juxtaposition to the optic atrophy of tabes, although if cases are seen late and treatment has not been instituted soon enough, the optic atrophy may follow later on in the course of the disease.

To the general practitioner the ocular paralyses should always signify a very grave condition, either of the meninges or the brain itself, and ought to be a signal for active treatment, so as to prevent, if possible, more serious damage in the future. Where active treatment is unavailing after a relatively short time, the probability of a subsequent clearing up of ocular symptoms is extremely doubtful. The gradual involvement of other ocular and cranial nerves is to be looked for sometimes sooner, and sometimes later. Mental deterioration follows, and suicide and the insane asylum mark the close of the lives of quite a large percentage of these cases.

Groton Building.

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Quacks and Quackery.

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It would seem that with a standard of medical education for entrance into the profession which does not exclude any one of fair education, moderate means and average industry, there should be no excuse for the existence of practitioners who are irregular. The enactment of medical practice acts is based upon the theory that they are needed for the protection of the people. Provided, that the legislature can be assured that the profession is united, there is no difficulty in securing or in enforcing such class legislation. Yet, in spite of all this legislation, it is a notorious fact that quackery thrives, and its devotees increase with each succeeding year. Their victims, with the diminution of illiteracy, should lessen in number; as a matter of fact, they are rapidly increasing. In every community there is always to be found a respectable minority of the population devoted to medical fads, and these fads vary from year to year, changing with the fashion. This floating population is fairly constant, but if this were the only source of recruits, the supply of patients for irregular practitioners would, in a few years, run dry. If persons practicing as quacks were only those whose incompetence barred them from legitimate practice, the people at large would learn to shun them. Evidently, there is something about quacks which attract patients, and something in quackery which appeals to the people. Evidently more persons than those to whom lan-

guage is given for the confusion of their ideas, are devotees of irregular practice, for these have ample scope for the exercise of their credulity in systems which combine science, so-called, and peculiar phases of devotion. The causes of the prevalence of quackery, outside the profession, do not seem sufficiently patent to account for the condition.

Let us analyze causes which may be found in the profession itself, for which, possibly, we may be responsible. Has the medical profession always maintained so high a standard of practice and of honor that the average layman can readily differentiate between the physician and the quack? A member of various national, state and local medical societies, a professor in a medical school in a metropolitan city, is engaged to attend a confinement. He ignores the presence of albumin and casts in the urine, assures the patient that these are of no importance; when labor, to him, unexpectedly commences, he attempts to place forceps upon the head of a less than seven months' fetus; without knowing whether or not he has engaged the head, he exerts traction with the locked forceps, cutting the perineum down to the sphincter ani muscle; having learned his error he performs version, and the child is expelled without difficulty; he then sews up the perineum with infected catgut, so that abscesses result. The final result is the death of the child, and the invalidism of the mother for months. Some time later it was ascertained that this particular shining obstetrical light was a chloral fiend, and had been an habitual drunkard for several years. Yet there is no redress. Because he, fortunately, did not kill the mother the District Attorney does not act; the medical school, in which he is a professor, ignores the fact because the operation was not performed in the school building; the societies do not take cognizance of the matter because although he comes to various meetings in a state of intoxication, what he does in private practice does not concern them. Nor does he care for civil processes, because a medical society to which he belongs defends its members against damage suits; even the companies for that kind of insurance, debar such persons. If there is any quack who has done worse than this legalized quack, there is no record of him. So long as medical societies retain drug habitues, chronic drunkards, and persons of notoriously immoral habits in their membership, we can not blame the laity for patronizing quackery. They certainly can fare no worse. The reason that these professional outcasts still retain their membership in medical societies is that many medical societies are actually controlled by men of like moral character. It is not far to go to find a large medical society, controlled by an ex-convict, aided by a man whose chief claim to distinction is an accidental association with a politician of wide acquaintance, and abetted by others whose presence in the organization is only secure when men of their class are in control. Obviously, the legalized quacks should be forced from the society of reputable practitioners, but so long as men of bad reputation are in control, this can not be accomplished. The decent men in the profession are to blame for allowing such a state of affairs to exist.

Persistent medical advertising in the public press is impossible for a decent member of a profession. Yet the press in our large daily cities is fully alive to the fact that men, not pressed by necessity, resort to it. Typewritten reports of wonderful operations, or cures, do appear at newspaper offices, accompanied by a cheque. The journals, naturally, object to these men receiving space and paying less money than the regular advertising rates. A careful study of the files of the metropolitan press now conducted for many months, demonstrates that the percentage of advertisers is not large. The basis for computation being that if the name appears but once in a series of years its presence is accidental, or beyond the owner's control, but if it appears with considerable frequency, it is likely to be intentional. Of the frankly quack advertisements, this much may be said: They can be stopped by legislative enactment, just as the divorce lawyers have been. As a matter of fact, the best class of journals do not publish them, on the ground that they are deceptive, immoral, and even obscene. An effort to remedy this scandal

would destroy, at least, a third of the journals, but so great is the power of the press that any efforts against the measure would, doubtless, fail.

The commercialism of the profession has, doubtless, much to do with the popularity of quackery. Private hospitals, rarely properly equipped, often without competent medical service, sometimes for illegal operations; board of health positions, sometimes seemingly designed for the levy of blackmail, insurance work, and a recent investigation by the Grand Jury, showed a close connection between a certain company and a quack doctor-shop, and the various blending of professional and commercial interests lower the standard of professional right-doing. It is possible to exclude all such individuals from having a voice as to what constitutes proper professional conduct.

Finally, medical men often err from ignorance, and this is by no means infrequent, when we consider the profession is recruited from all classes and conditions of mankind. To remedy this every medical school should include in its curriculum instruction upon the duties of a member of a learned profession. No society can formulate rules whereby the dishonest can be made honest, the scoundrel be forced to be respectable, the sot to become decent. No code of ethics can be devised which will not be a cloak for dishonest practices, or a weapon to annoy honorable men. But it lies in the power of the profession to drive from our ranks the drug fiends, the drunkards and the immoral; we can keep our societies free from systematic advertisers, we can refuse to admit those engaged in commercial enterprises, and we can instruct our candidates for admission. When we have done this, so that membership in a medical society means respectability on entrance, and subsequent conduct in harmony with a high standard of professional right-doing, then we may complain with some justice of irregular practitioners, and that the laity fail to make distinctions. Until we do this, we have no right to revile quackery, which implies incompetence and pretense, or fraud, when the same characteristics are found in some of those who are assumed to be reputable members of a learned profession. When we have ceased to ignore quackery in our own ranks, then the people may recognize the difference between the educated physician and the charlatan.

679 Madison Avenue.

[Written for the MEDICAL BRIEF.]

Medical Wonders and Medical Blunders—A Story of Facts.

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CHAPTER VIII.

CERTAINLY A MEDICAL WONDER.

My intentions were to begin the description of the cause of disease in this number, but I decided to first call attention to two more fallacious practices which are injurious, both to the public and general practitioners.

If this chapter does not open your eyes to a scene that is so atrocious in its involution, and so inexcusable in its manifest ignorance, or something worse, called by another name, which would not appear proper in print, then I have formed too high an estimate of at least a large number of the general practitioners.

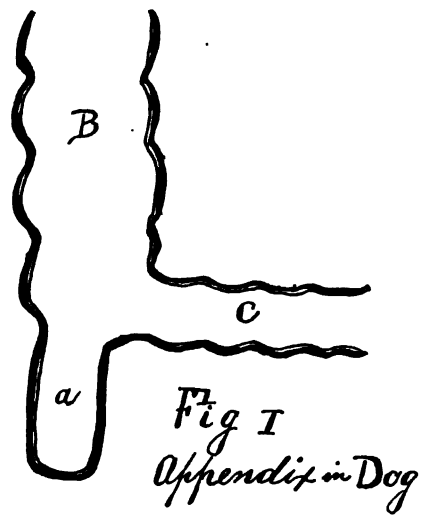
First, I will call your attention to the difference between the anatomy of the appendix in a dog, and in a human being. Figure 1 shows that in a dog the appendix is practically a continuation of the intestine. The construction of this part of a dog (anatomy would make it natural to assume) that this free and open appendix could be easily obstructed by substances passing through the intestines, as it is practically a part of it. Yet a dog does not seem to have appendicitis.

Dr. J. B. M., of Chicago, if I am rightly informed, has a hobby for experimenting upon dogs, and is also considered the father of this atrocious and criminal appendicitis operation practice. Did he conclude that the appendix was the same in the human being, and that it was unnecessary, and a dangerous little piece of anatomy?

If this same anatomical feature existed in the human being, it would be quite natural to infer that it would easily be-

come obstructed with plum stones, grape seeds, or anything else that is passing along the line, and thus set up inflammation, or other serious trouble, and its removal would be a blessing to man, and that the all-wise Creator made a mistake in leaving such a dangerous little organ within the body.

Figure No. 2 shows the appendix, and its relation to other parts in the human being. We find here a very decided difference existing between the dog and the man. We find here exploded such a gigantic fraud and deception played upon the public and, no doubt, upon many physicians, that it seems almost impossible for it to be true. The universal impression has been given to the public that plum stones, grape seeds, lemon or orange seeds, and other things, get into this appendix and set up an inflammation, and, therefore, it was a blunder of the Almighty, when he constructed man with this useful attachment.



A, Appendix; B, Large Intestine; C, Small Intestine.

The anatomy shows that it is an absolute impossibility for the appendix in man to become obstructed, any more than the glands that secrete the saliva can be obstructed by the food in the mouth.

This little appendix is a glandular organ and, evidently, there for a purpose similar to that of other glands, *i. e.*, to furnish lubrication, and answer as an oil can to prevent any obstruction when the contents are passing from the large intestine into the smaller one. Doctor, how do you feel now? I would have to get a new mainspring put in my vocabulary to express my feeling, so I will let each one use his own adjectives, especially giving my compliments to those who have been sending their patients to Chicago surgeons, or any other place, to get a rake-off, when the patient had only a bellyache, which most any old woman could have cured with a little commonsense treatment.

It might be possible that this appendix may become inflamed by cold or, secondarily, through an inflammation of the surrounding parts, but I have never seen such a case. I have witnessed and assisted in thirty-four operations of so-called appendicitis, but never have I seen a diseased appendix. Yet, I have seen a number of healthy, blooming young men and women sent to the angels just because the surgeons wanted the fee of three to five hundred dollars.

I mean just what I said, that it was absolutely for the fee only, and the surgeons made no bones about saying so before the operation was performed.

A. B. Stockham, M. D., quotes the statement of a physician at a meeting of physicians in Boston, which shows how hard it is to get the actual proofs, even if you are standing by and seeing the criminal performance, as long as credit is given to the statement of these prominent surgeons. This physician, who is said to have performed more operations for appendicitis than any other American doctor, made the statement: "That ninety per cent of the cases that he operated on for appendicitis proved not to be that disease at all."

In explaining it, he said: "We always tell a patient and his friends that the operation is successful, and show some tangible excisions, to prove the validity of the case."

In the city of Appleton was built one of the largest hospitals, by Catholic Sisters, in this State. A number of months after the hospital was completed the physicians of that city and other along the Fox River Valley, informed these Sisters of Charity that if I was allowed to come

in, or bring patients into the hospital, that they would all refuse to bring patients there, and I was so notified, all because I had cured a number of patients of a very simple ailment, after these prominent physicians had told them nothing but an operation would save their lives. This would, at least, appear to me as though, in this instance, these Sisters of Charity considered the financial success of this hospital more than the lives of human beings. Perhaps I am a little prejudiced, but facts are stubborn things.

I shall avoid giving names of surgeons, as the knowledge and information I have from different States make it reasonably clear that this foul and murderous surgical practice is general.

No valid argument or evidence can be presented to show that one operation in a hundred; yes, one in five hundred, are actually necessary.

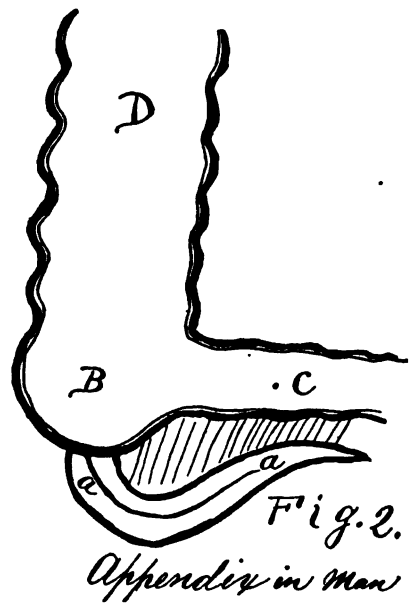
Can language be strong enough to condemn this practice of butchering and murdering? It is so foul that it smells to heaven.

I will here give a few instances to substantiate the foregoing statement:

A school teacher, twenty-two years of age, who had inherited a number of thousands of dollars, went to a physician about sixty miles from her home, and complained that she had a pain in her left side, near her ribs. (Remember, I said her left side.) The physician told her that she had appendicitis, and she believed it. I had occasion to examine the case before she went to the operating room. I told the physician that she was in perfect health, but being quite fleshy, it was very risky to operate upon her. "Well, there is four hundred dollars in it, and she expects to be operated upon, so we will go ahead," said the physician, and in four days she went to the angels.

Another case, a man thirty years of age, was operated upon in this same hospital, and had nothing, only an irritable stomach and indigestion, but the surgeon made him believe he must have that appendix removed to get well. He had it removed and recovered, but the peritoneum failed to unite, and there was a hernia. He operated the second time and the man made a good recovery. The six weeks in the hospital, which gave his stomach and general system a good rest and, of course, he went home feeling pretty good. Almost two months later I saw a letter written by this man to the surgeon, stating that he would praise him as long as he lived for saving his life by his skill as a surgeon, and would see that all the people from his part of the State would go to him when sick. Business is business. The best way to get a reputation as a successful surgeon is to operate upon healthy people, and not get caught at it.

A boy of sixteen years was hurried to the hospital, after being suddenly taken sick, while the father was driving to a



a, a, Appendix and small opening inside of it; B, Cecum; C, Small Intestine; D, Large Intestine.

neighboring village. On his arrival home he was informed what had happened. He drove quickly to the hospital, where he was informed that the boy had appendicitis.

"How much dat cost?" asked the father.

The doctor said, "About three hundred dollars."

"Dree hundred thaler? I got no dree hundred thaler."

He took the boy and drove home with him. After arriving home the boy had a natural operation, and the next day followed the plow, the same as ever.

Another instance similar to this: A tall, strong man was taken to the hospital in the evening, to be operated upon the next morning. The next forenoon the operating room was prepared, and the nurse went to the room of the patient, and the bird had quietly flown. The man had a natural operation during the night, and felt so good the next morning that he went home.

One of our Congressmen, a perfect giant of physical health, was taken with a little pain in the abdomen while attending church. He called a physician when he arrived home, and was told he had appendicitis. He was taken to the hospital the same day and was operated upon, and was buried the same week. I heard this same man say several times, if he ever had any trouble he would have that appendix removed immediately. Well, he did, and he was removed, and made room for another candidate.

The only daughter of the postmaster, a prominent citizen, after her summer vacation in the mountains, came home blooming in health. A few weeks after arriving home, she complained of a pain. The physician said operate immediately, and the girl fought and begged not to be taken to the hospital, that they would kill her there. The father says, "My dear, the doctor says you must." In four days the man's only child was a corpse. I could give the history of a dozen more such instances that occurred at Appleton, and other cities, but this is enough to show it was necessary for the physicians to combine and have me barred from entering the hospital.

A most unique case occurred in Milwaukee. The family was a little skeptic about this Medical Wonder, but gave their consent on account of their long intimacy with the family physician, combined with a consultation of two other doctors, who said that it was absolutely essential to have the husband's appendix removed. The man was taken to the hospital and his family waited until the operation was over, as they insisted that they wanted to see the appendix after it was removed. Of course, as usual, a healthy appendix was amputated, so the surgeon cut off a piece of fat from the wall of the abdomen, twisted it, so it looked like a cork screw, dipped it into blood of the patient, showed it to the family, and explained to them how destruction and disintegration had taken place, and that the operation was just in the nick of time to save the man's life. The family and physician are well known and prominent.

I could keep this up to fill the space of the BRIEF, but this ought to be sufficient. These methods are going on continually, not only in the appendicitis "Wonder," but in all of the various operations coming under the head of laparotomy. It is really inspiring to see the many articles in the journals at the present time that wind up in praise of our noble profession. The cause and treatment of this so-called appendicitis will be given later.

CHAPTER IX.

CONTAGION IS A SUPERSTITION AND ASSUMPTION.

In spite of our so-called twentieth century intelligence, no superstition, no nonsense, no dark ages, no barbarians, no community, in the history of the Christian era, ever invented a belief, or superstition, which was based upon a more windy foundation than the belief in the theory that one person can contract a disease from another by contagion. The whole subject is a jungle of fanciful assumptions. There is no other thing in medicine that has been more instrumental in establishing so many barbarous and inhuman laws upon our statute books. The execution of these laws are inhuman, cruel, and barbarous.

There is hardly a question in human affairs that has more often been the cause of revolutions and mobs. Cities, States, and sometimes nations, being aroused, and business disturbed or ruined. Billions of dollars have been spent to carry out this most ludicrous, the most nonsensical and foolish belief, or theory, that could be invented by human brains; especially is this true in yellow fever, cholera, diphtheria, and small-pox epidemics.

No disease, no matter by what name you may call it, can be spread or contracted by contagion. This is a natural truth. This I can prove, this I can demonstrate,

and if put to a hundred million tests, will not fail in a single instance.

I know, too well, that I am treading upon tender grounds, and upon one of the pet hobbies of the medical profession, "contagion." It answers the same purpose that the red flag does in the Spanish bull fight, it frightens the powerful bull away from killing the Spaniard. The word, "contagion," frightens the greatest power on earth, "public sentiment," and in this they can not, or will not, reason, and thus easily with our contagion flag have kept them under our control.

In this chapter I only wish to call attention to the fact that if disease were really contagious, there is no human power to prevent it.

The proof that there are no contagious diseases will be brought out in the next article, the chapter on the cause of disease.

I will give just one example, to shew how far we are from the truth, and so simple it is, and so plain and open has it laid before our eyes that it ought to make our great authorities feel like asking for a permit to get off the earth.

For instance, I will prove that scarlet fever scales, which are considered so terribly contagious, are nothing but sweat drops, with the water evaporated; in other words, principally urea and uric scales. We can scrape these same supposed dangerous scales from our body any day, especially from those who bathe about once a year. The basis of all other diseases is just as simple as this one.

We, as physicians, are in reality dealing with absolute unchangeable natural laws. When these laws are once discovered and demonstrated, all beliefs, opinions, and barbarous superstitions must vanish.

Or, must I be impressed with the fact that we, as physicians, are allowed ethically, to entertain any kind of opinion or belief, and allowed to strictly disagree with the beliefs of others; but that none of us are allowed to discover an absolute natural law, that will be of actual benefit to the public and the general practitioners, but is against the financial interests of a few leaders and authorities?

The men of the past who have discovered natural laws that have overthrown long-established beliefs and opinions, have had to stand ruination and persecution to such a marked degree, and, considering my own experiences the past decade, it would seem almost just to make the statement that any man who will devote his life, his money, and sacrifice his interests for the welfare of the public, or for the establishment of true medical science, has committed a terrible crime, and ought to be taken to the highway and shot.

The usual defense made to support the contagion theory is to announce a circumstance where someone came down with the disease after being in the presence of some one else who had the same disease. Is this not true? But this is no proof whatever. If the same observation should be paid to any form of acute disease, the same kind of evidence could be presented, and in much greater percentage than the so-called contagious disease. On the surface, this kind of evidence sometimes seems apparent. But why is it? If this principle is actually put to test to produce disease it always fails.

It is a well-known and recorded fact that I have for fifteen years ignored all statute laws, tore the signs down off the houses on purpose, and notified the health officers of the fact, but never molested but once, and ever since can do anything without being noticed.

I have bathed in the poison of these diseases, ate them, carried them in my pockets for months, rubbed it into dozens of people, and exposed millions upon millions of people, but never could a single case be even presented or personally traced to my acts? Why am I let alone? Why am I not dealt with as others? The authorities are surmising that I have the goods to deliver. Therefore, to keep as mum as Egyptian mummies is to keep the public mum. Pardon this little personal digression. But I ask what right has any man, or set of men, to force by statute laws the execution of a belief, as a fact, upon others?

Whenever I ask a physician to tell me the strongest evidence the medical profession has that disease is contagious, this is his answer: "Because it spreads from one person to another. This is proof enough." We all know that these diseases

spread, but doctor, let me ask you one square question. If disease is contagious because it spreads, then all diseases that spread must be contagious. How are you going to get out of this argument? Is there an acute disease in existence that does not spread and does not, at times, become epidemic?

According to this argument, the medical profession would be admitting that they are the most negligent organization in existence, because a number of other diseases spread, and are ten to twenty times more fatal, but are not considered contagious. On the other hand, let us suppose, for a moment, that diseases are contagious. If so, have we one single method of ours, or any health department, or the enforcement of any statute laws, or carrying out of any rule that has been adopted, or could be adopted, that could possibly prevent the spread of a single disease? This is putting it strong. This is putting myself down on record in a manner that it would be an easy matter to show me up a fool and an ignoramus, if I am wrong. But I will say that I have no fear of ever being beaten upon this question, that no disease is contagious, but the enforcement of laws that it is contagious has caused the public much unnecessary suffering and persecution.

This being true, I shall, at least, use all the honorable means and stubborn persistence to right this wrong inflicted upon humanity all these centuries, and here request every physician that has the public welfare and the welfare of the profession at heart, to give his assistance and helping hand in this all-important question.

I have begged and pleaded for ten years, but have been completely ignored with the old time-worn remark, that I was nothing but a crank and crazy. I have never found a single health officer but who privately laughed and ridiculed the whole subject as a farce, but, publicly, would defend it with stubborn resistance. They admit that experience demonstrates to them that it is a farce, but they dare not say anything, because if they did they would lose their job, and somebody would get it, and that would be all there would be to it.

Among the masses, or so-called common people, it can be safely stated that seventy-five per cent of them do not take stock in this foolish contagion theory, because it is among this class that their experience and observation satisfies them of the foolishness of contagion.

Again, when the subject of contagion is faced with good, cold logic and reason, it simply falls flat. I never have met the man who dare meet the question in open discussion.

My experience has satisfied me that very few in the medical profession actually believe the nonsense themselves, because their everyday experience soon convinces them of this fact. I can name dozens in this vicinity who privately admitted that I am right, but say that they were not going to publicly admit it.

There is nothing a man will so strongly defend as an honest belief. This subject of contagion the profession have not dared to defend, except by their big club, "statute laws."

The health officers of Chicago reported one hundred and sixty-three deaths from pneumonia for one week. Allowing a five per cent death rate, this would indicate about three thousand cases of pneumonia in Chicago in one week. Would you call this a disease that spreads? Change the word pneumonia to small-pox, and what a panic there would be!

Suppose there were one thousand cases of scarlet fever, five hundred cases of diphtheria, and one hundred cases of small-pox in Chicago, and these cases were being attended by five hundred physicians. These physicians would go into the quarantined houses and to other patients, to their own families, to churches, lodges, theaters, and street cars. Each physician is likely to expose more people than a layman would. The physician is not in danger of spreading the disease, but the poor father who needs his three dollars a day to support his family is locked up.

Is there anything but a frightened, unreasoning and unthinking man upon this particular subject that would not shoot down the first quarantine officer that trespassed upon his premises? But what will you call those that impose by statute laws such persecutions upon an

innocent and confiding, but frightened, public?

But I want to ask why it is that the thinking men in the medical profession, and the American people, will stand by and tolerate these atrocious acts, with eyes wide open?

If disease is really contagious, our present methods can no more effect to prevent them from spreading than spitting in the ocean could produce a flood. In fact, if disease is contagious, there can be only one way to check it, and it is this: The patient would have to be sealed in an air-tight steel casket a week before he comes down, and the casket never reopened.

Let us know the cause of disease, then this gigantic superstition will be a thing of the past. This is the real purpose of this series of articles, of which the July number will be the opening wedge.

207 Grand Avenue.

[Written for the MEDICAL BRIEF.]

Constipation—Its Pathologic Physiology and Treatment by Exercise, Diet and "Visceral Drainage."

BY BYRON ROBINSON, B. S., M. D.,
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(Continued from page 351.)

Visceral Circulation in Constipation.—The proverbial advice of the elderly doctor, when he wishes to be social, entertaining and instructive, is, to keep the head cool, the feet warm, and the bowels open.

This philosophic advice is frequently theoretical, rather than practical, from an application to the actual living habits of the subject. In the present modes of living among women constipation plays an extensive and damaging role. The evil effects of constipation extend to adjacent visceral tracts, as circulation, respiration, and particularly on the tractus glandularis—secretions. The most important visceral tract of life itself is the tractus vascularis, over which the sympathetic nerve, nervous vasomotorius, maintains direct control. An ample stream of fresh blood can not irrigate properly constipated visceral organs. In constipation one or more of the four great common visceral functions—peristalsis, secretion, sensation or absorption—are disordered. The disturbance of circulation in constipation may be local or general. We observe the profound anemia of girls, frequently following the phase of puberty. The circulatory changes are at first local, later general. The anemic, chlorotic girl (from fifteen to twenty-five years of age) is plump, fat, and beautiful—in fact, it is the anemia of the good-looking girls. It appears concomitant with the disordered local circulation (genital); the later, general, disordered circulation, is accompanied by disordered, hypertrophied glandular system (tractus lymphaticus) and constipation. The chlorotic girl might profitably pose as an alabaster or marble statue. Hence, disordered circulation (pubertas), accompanied by disordered general circulation, disordered tractus lymphaticus, and constipation (disordered peristalsis, or secretion, or absorption).

In the establishment of menstruation numerous local (genital congestion or anemia) or general (chlorosis) circulatory disturbances arise. In pubertas the luxuriant vessels (veins) of the ovary and its compensatory balanced arm, the endometrium, congested, engorged, which robs the blood from the tractus intestinalis and disturbs not only local, but general circulation condition is intensified in gestation.

Until the habit of menstruation is established the local change of circulation may induce constipation. In fact, I have relieved numerous gynecological patients by restoring normal evacuations of the bowels, and *vice versa*, normal genitals may restore normal bowel evacuation.

In short, detailed attention to the circulation—a matter directly under command of the sympathetic—is one of the most important factors as regulating constipation.

It is the detailed study of sanitorium patients, as to life, habits, diet and fluids, that makes the sanitorium financially profitable and suggestive, at least to the so-called surgeon who is so busy with major operations that he walks over gold and silver daily. The neglect of accurate diagnosis and consequent neglect of de-

tailed treatment and defects of common functions, constipation, by the physician, is the reason of the multiplication of sanitoria, and the consequent loss of fees and confidence in the home physician.

It is the duty of the physician in defects of the common visceral functions—peristalsis, absorption, and secretion—to introduce visceral drainage to relieve the patient of waste-laden blood, and restore normal circulation. The physician should decide in detail the quality and quantity of the food and fluids ingested, and determine the methods of sewerage. He should recognize the secretory and motor activity of the tractus intestinalis, and the fascio-elastic muscular apparatus of the abdominal wall, which aids in evacuating the bowels.

Women, especially the young, must be taught the absolute necessity of regular daily evacuations, regardless of environments, time, place, views, or agreeability. The woman should know that exercise, muscular activity, is necessary for the abdominal muscles to force continually the bowel movements, contents, analward. Active bodily movements, fresh air, bicycling, walking, aid very much to maintain visceral circulation.

Artificial checks to respiration, as the corset or tight bands, check circulation, especially visceral, and hence peristalsis, absorption and secretions of the tractus intestinalis is checked. The corset is an enemy to circulation, and a friend to constipation, and is unhesitatingly condemned.

Only ocular demonstration will convince a woman against corsets, so firm has become the senseless iron rule of fashion.

To illustrate the important influence of circulation in constipation, the first week of marriage may be noted. The extra irritation of the genitals induces a genital hyperemia, a congestion which robs the blood from the tractus intestinalis, leaving in its wake intestinal paresis—constipation.

Menstrual disturbances, chronic genital inflammation, entice blood from the tractus intestinalis, leaving defective intestinal peristalsis from lack of blood. Removal of chronic congested genitals may restore normal action of the genital tract by returning to them their normal blood stream. Not only does pregnancy induce constipation, by enticing a continual blood stream toward the genitals from the intestinal tract, but in the puerperium the abdominal muscular apparatus has lost its original elastic toné, its power of compression. The enforced corporeal rest and non-irritating food administered engenders a constipation by disordered, unbalanced circulation.

In the puerperium, instead of an abdominal binder, the abdominal muscles should be massaged. The patient should practice on the abdominal muscles gymnastic exercises, in order to quickly restore them to normal action, and thus avoiding one of the prime factors of splanchnoptosia.

The abdominal binder, the enforced rest, and concentrated food in the puerperium, all tend to lessen the visceral circulation, especially in the intestinal tract, and hence to entice constipation.

The Diagnosis of Constipation.—First and foremost an examination, extending from mouth to anus, is a prerequisite to diagnose constipation.

The mouth, and especially the teeth, unfold an important story.

The state of the abdominal and thoracic walls are significant. Does splanchnoptosia exist with its general consequences?

What is the state of the rectum (fissure, hemorrhoid, ulcer) is of extreme importance.

The tractus vascularis tells its own story in arterio-sclerosis, which would indicate defective circulation in the splanchnic area.

Careful palpation of the plexuses and connection cords of the abdominal sympathetic should be practiced, as they regulate the caliber of the splanchnic vessels. Tenderness of the abdominal sympathetic plexus indicates an irritable condition of the viscera. If marked sclerosis exists, the abdominal aorta is palpable and tender. It is enlarged, movable, and pulsates vigorously. The tenderness is to be localized especially along the plexus aorticus distal to the umbilicus, and in the plexus celiacus (abdominal brain)

proximal to the umbilicus. This tenderness indicates a neuritis of the sympathetic, or vasomotor plexuses. Colic, due to spasm of vessels (arterio-sclerosis), must be differentiated from colic due to enteritis. In neuritis of the sympathetic plexuses, the pain and tenderness is localized in the celiac and aortic plexuses, and along the route of the ensheathed, which is characterized by spasmodic and periodic exacerbation. Peritonitis announces a more diffuse tenderness, and it is less spasmodic and periodic. Enteritis presents tenderness, localized in the course of the enteron, and is accompanied by other symptoms, as mucus in stools. The diagnosis of constipation is a small factor in practice, but the finest head, with the best skill, is required to diagnose the etiology, for on the cause of this malady rests the successful treatment. It is needless to say that a thorough and complete physical examination is absolutely necessary. For constipation may depend on the kind of food taken, on habits of life, on drugs employed, or on defects in the system. Some affirm that heredity plays a role in constipation; however, this is only a cloak to cover what we do not know. Many persons who have only one stool in two days, and remain healthy, are not constipated, and require no treatment.

Treatment of Constipation—General Remarks.—First and foremost in the treatment of constipation, should be considered the diet. Some physicians have a diet list. In certain cases it is convenient, but generally of little value. Oatmeal and graham bread, with milk as a beverage, leaves ample residue to induce peristalsis, which soon overcomes constipation. In such cases, also, a few daily colonic flushings aid wonderfully, with the establishment of a regular hour for evacuation. Especial stress should be laid on the matter of avoiding cathartics; they are among the chief causes of constipation. The best methods of curing constipation are those which imitate nature the closest, and most perfectly. They are, in order:

1. The regulation of diet (ingesta).
2. Physical procedures.
3. The judicious use of laxatives.

In the regulation of the diet several factors are requisite, viz., food which leaves a large residue, which will impart the necessary constant stimulus to successive bowel segments. Peristalsis requires a physical stimulus, a bolus that will feel its way from stomach to anus. The diet should be a mixed one of cereals, meats and fruits, as well as concentrated foods. It should be eaten at regular, fixed hours. The bowel is an organ wonderfully inclined, in certain persons, to assume sluggish, stubborn habits. Subjects who eat irregularly are apt to become just as irregular in evacuation. To show the effect of the habit, observe how much more women are constipated than men—a result of insufficient physical excise, or sedentary life. Also, ample fluid should be taken with the foods.

The good effect of graham bread is chiefly due to the large residue, and the contained salts—both acting physically on the bowel, causing peristalsis. The habits of the use of narcotics, drinking, smoking, chewing, and taking of morphine, sexual abuses, over-mental activity, etc., should be modified.

The second method of treatment in constipation is the use of some physical procedure. Of these several are important. Among the first is the establishment of regular habits of evacuation and overcoming irregular ones. The bowels should be evacuated every morning after breakfast, *i. e.*, after drinking hot fluid and eating hot food.

Heat starts peristalsis. The mental state has much influence over the bowels, so that if the mind is set on a distinct hour for an evacuation, it is pretty sure to be secured. Another valuable factor is regular and vigorous daily exercise. The most natural are walking, horseback or bicycle riding. The habit of exercise is nearly always sufficient to overcome constipation. Gymnastics serve a similar object.

When the above exercises are not performed, one of the sovereign cures of constipation is voluntary cultivation of the abdominal muscles, or massage; at first, weak or light rubbing should be employed once or twice daily; subsequently, vigorous massage should be carried on.

Stroking, rubbing, tapping, kneading and gripping the abdominal wall should be judiciously performed. The large intestine should be massaged from cecum to rectum, following the line of the colon, and the direction of the fecal current. Rolling a bag of shot or dry sand over the abdomen is effective, if continued many days. Much patience on the part of both physician and patient will be required to continue the massage, for it may need a month to accomplish permanent results by this process. Rolling on the abdomen for ten or fifteen minutes every morning accomplishes good results in constipation. Another excellent remedy for both its mental and physical effects, is electricity. Either the galvanic or the faradic current is effective. The muscle walls of the abdomen can not only be treated by electricity, but one of the electrodes may be inserted into the rectum. Another physical procedure of great value for a limited employment in constipation is irrigation, or colonic flushings, or rectal injections. However, rectal injections blunt the sensibility of the rectal mucosa. For mild cases a rectal injection of one-half pint of plain or salt water is sufficient to irritate the bowel, and excite an evacuation. In more stubborn cases a quart of water, containing irritants, may be injected, by a fountain syringe, held two feet above the patient, and allowing the fluid to flow into the bowel. Another method is to turn a chair upside down, place a quilt over it, and then place the patient over this inclined plane, with the hips well elevated, and shoulders well down. Then allow a quart of water (containing desired ingredients) to gradually pass into the colon.

Besides the water injections, one may employ stimulants, such as epsom salts, olive oil, glycerine and water, at different temperatures. An excellent rectal injection is a half pint each of molasses and milk. It is hygroscopic. The irrigation is accomplished with more safety and efficiency with the fountain syringe at a low level, *e. g.*, about two feet above the patient's hips. Cold fluid injections excite the bowels; however, warm fluids dissolve feces more rapidly.

To dissolve and soften fecal masses, warm olive oil is excellent. Hence, to produce an immediate stool, a cold-water rectal injection of one-half a pint will be the most effective, as it at once induces active peristalsis. This may be added by rolling a bag of sand or shot over the abdomen. Daily dilatation of the rectum, especially when it is inclined to spasm, or is subject to fissure, ulceration, or hemorrhoids, is a usual procedure. However, fissures, ulcers and hemorrhoids are proper cases for operations.

Finally, in the treatment of constipation, we come to use of drugs—at once the most disastrous and inefficient of all methods. Cathartics are to be avoided as much as possible in constipation. Constipation is generally the result of catarrh. Cathartics influence catarrh injuriously by further complicating the circulation, and inducing congestions and depletions. In the treatment of diseases peculiar to women, which I have diligently followed for twenty years, and where constipation is a common matter, I seldom advise a cathartic, pure and simple. The method I have followed successfully for years, is what I term visceral drainage, presently to be described. Drastic cathartics are the friends of constipation. The number of cathartics is very great. The choice of one will depend on whether the drug is intended for long or short use. If a cathartic be employed for a short use, to secure an immediate evacuation, one of vigorous nature should be selected. For this purpose none are superior to mild chloride, followed by magnesium sulphate. The mild chloride stimulates the whole gastro-intestinal glandular apparatus, while the magnesium sulphate induces a large flow of fluids into the bowel. I have used these cathartics thousands of times, and have not yet observed superior ones. The violent drastic cathartics, such as croton oil, podophylin, colocynth and elaterium, are seldom required.

Should a cathartic be required for prolonged use, one of a mild nature should be selected, such as rhubarb, magnesium sulphate, senna, aloes and cascara sagrada. Drugs administered for chronic constipation should be employed at night, so that the quietude of the patient will allow the drug to pass slowly over the

whole mucosa. I am of the opinion that the addition of belladonna to cathartic pills is superfluous, and therapeutically only adds injury to insult. The cathartic insults the mucosa, while the belladonna injures it, by attempting to deceive it by anesthesia—both enemies to the normal, peaceful, mucosa life.

The beneficial effects of mineral waters, which generally depend upon the contained glauber and epsom salts, are only secured by long-continued use. Of the two forms of drugs, pills or liquids, given for constipation, the pill form is the superior one, because it works slowly, and thus imitates nature more closely. Nature always resents violent insults, with evil consequences. Nature itself is a bundle of habits, and if we are to be successful, we must imitate her methods. Hence, we must employ for constipation, diet, fluid, exercise, physical procedure, and, lastly, adjuvant cathartics—we must study the sympathetic nervous system.

The treatment of constipation does not consist in searching after and administering drugs, but, rather, in the avoidance of their use. We may first say that constipation is not curable by any planless method, nor by any planned method imperfectly executed, while there may really be nonremovable anatomical conditions causing the difficulty. Planless prescribing of cathartics is worse than useless. The head and front of all therapeutics in constipation, is due to an original, abnormal, nervous suspension of the peristalsis of the fecal reservoir. This concerns us and our therapeutics; though we may find difficulty in excluding congenital defects, such as atony of the bowel wall, or constipation due to dislocated viscera. Is the constipation, as Dunin suggests, a mere symptom of neurasthenia? If our original proposition be true, viz., that constipation is a neurosis of the fecal reservoir, cathartics are not only useless, but harmful.

In constipation we should attempt to cure the neurosis, the neurasthenia, when the constipation will disappear. The moral part of the patient should receive attention, for often there is far more in the suggestions added to medicine, than the remedies themselves can supply. If constipation depends on suspension of peristalsis, either from muscular atony or deficient innervation, it is plain how malpractice resides in the use of cathartics. Physical procedures must, above all, be employed in muscular atony, or defective innervation of the fecal reservoir. In the treatment of constipation it may aid to determine the etiologic cause, as atonic constipation, associated muscular atrophy; neurotic constipation, associated with disorders of the cerebro-spinal axis, or the sympathetic (tabes, lead poisoning) metabolic constipation, associated with disordered metabolism, as excessive obesity, sweating, diabetes, anemia; trophic constipation, associated with subjects ingesting excessive meats, or other dietetic errors.

Suggestion.—I wish here to emphasize the subject of suggestion in the control or cure of constipation. The control of mind over matter has no uncertain sound in the aid to cure constipation. The psychic effect of a well-directed suggestion is often effective in stimulating peristalsis for regular stated times for evacuation. For example, tell a patient, definitely, to go to stool after breakfast, as the hot coffee stimulates the bowel to action. He will not only concentrate his mind on the function, but will cultivate his mind for a definite period for evacuation, which I consider of vast value. Occasionally, particularly in neurotics, this will effect a cure. With the suggestion for a daily evacuation at a stated period should be combined simple convenient remedies, as gymnastic exercise, special diet, in order that the patient may observe cause and effect.

Dietetic Summary.—Quality of foods, quantity of fluid, chemical composition, are important considerations. (*a*) Food must possess sufficient variety (mixed) in quantity, quality, chemical composition, and be ingested at regular intervals. The food should be mixed, however, possess sufficient indigestible matter to leave ample residue to stimulate peristalsis (and hence absorption, sensation and secretion). An excessive amount of coarse, indigestible food will result in an excessive fecal residue, which excessively stimulates peristalsis, absorption, and secre-

tion, and sensation—resulting in muscular fatigue and defective sensibility of the mucosa—consequently, reflex action is impaired.

(*b*) Ample fluids, at regular intervals, should be ingested. For a person of one hundred and fifty pounds five pints is required to supply the bodily waste (*i. e.*, tractus intestinalis, respiratorius, urinarius, perspiratorious), eight ounces should be drunk every two hours for six times daily. Fecal matter is about seventy-five per cent fluid and twenty-five per cent solid. The value of fluids for the tractus intestinalis is evident, because in hot weather, with consequent vigorous action of the tractus perspiratorius, constipation results. The chief value of mineral water is the quantity drank. Excessive fluids deteriorates digestion.

(*c*) Foods should possess chemical qualities. Carbohydrates produce acidity, nitrogenous foods alkalinity, and mixed foods neutrality of the digestive tract. Evacuation of the tractus intestinalis depends on: (*a*) Sufficient volume of feces, (*b*) sufficient volume of fluid contents, (*c*) the presence of substances which act as a chemical irritant to peristalsis. Dr. Walter Baumgarter attempted to devise a substance which would not only be difficult to absorb, but would retain its watery contents (be hygroscopic). He administered eight grains of the dry, shredded agar-agar three times daily, whence he found the stool increased in volume and watery content.

(To be continued.)

[Written for the MEDICAL BRIEF.]

Cholangitis.

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If we are to impart any knowledge concerning the above subject, and render it more intelligent than it now is, and impress the fact of its importance, we must take our readers back to the neglected fields of human anatomy and physiology, and there with them for a moment scan a secluded nook, a forgotten corner, or perhaps a corner never explored by many, save sufficiently to pass their examinations for a degree in some medical school. We know how uninviting and dry these subjects are to some who have mounted to the heights beyond this gloomy vale, but we will not detain you long, hence implore patience.

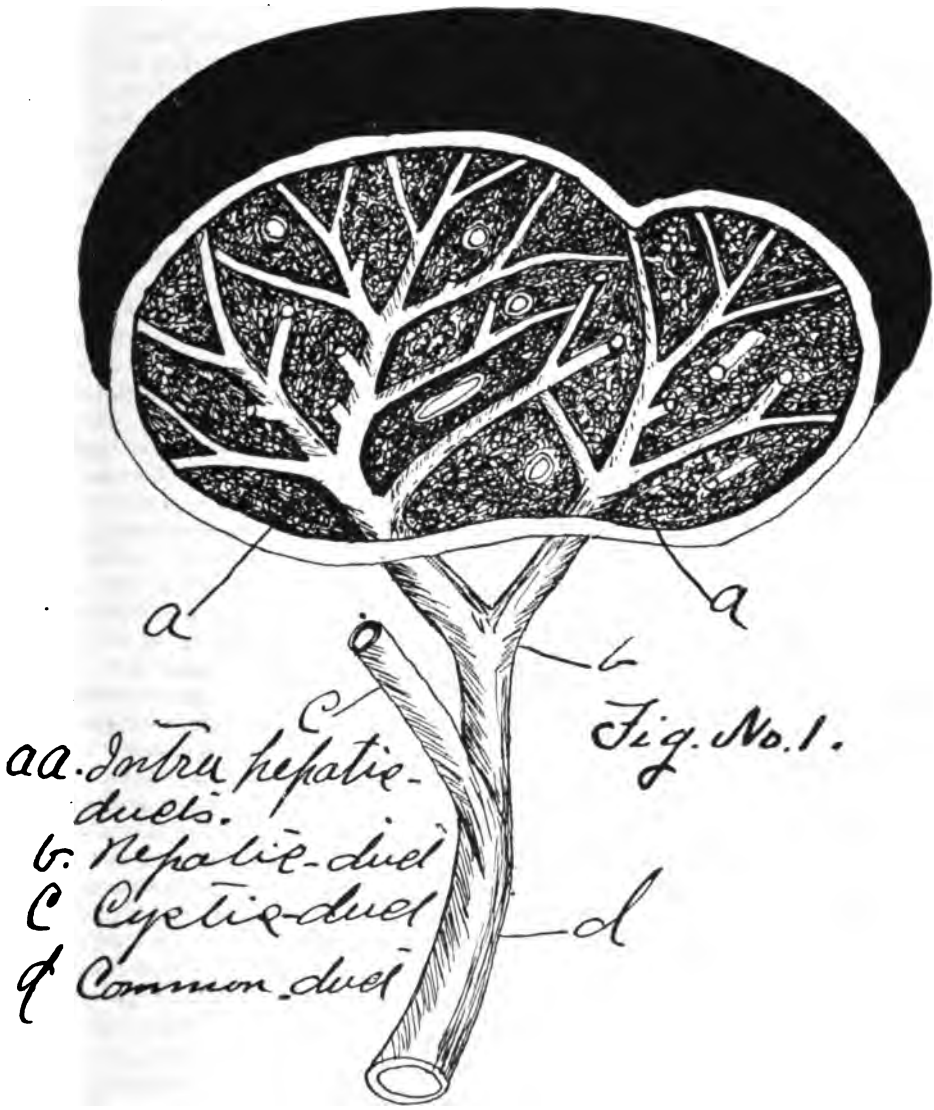
The functions of the liver are performed by its cells, they forming the greater part of its substance. They are placed in the liver in compartments, a number of cells occupying a compartment, the wall of the compartment being a membrane completely enveloping the cells within it. These compartments are known as lobules. How many lobules there are in a liver is not known, but probably thousands. Each one of these lobules is a miniature liver, performing every function the liver performs. One of the functions of each cell in a lobule is to eliminate from that portion of the blood of the portal vein, brought to it, the bile it contains, and deposit it in an open canal, which lies by its side, and which connects with other like canals about other cells in the lobule; all these canals uniting and radiating towards the capsul or membrane surrounding the lobule, which they penetrate, and now form minute ducts, which surround the lobule. Here, then, is the beginning of the biliary ducts. These small ducts unite with others to form larger ones, and these again to form still larger, until all have united to form two large ducts, which pass out of the liver at the transverse fissure, and unite to form the hepatic duct. Thus, throughout the liver is a network of bile ducts, all converging to a common outlet. The whole system of biliary passages may be compared to an inverted cone, the base of which is in the deeper portions of the liver, and the apex, the common duct.

From the above, it is obvious that the area of the intrahepatic ducts exceeds by far the area of the extrahepatic ducts (Fig. No. 1). We wish to make this point emphatic, for the reason that we believe sufficient importance has not been given to the intrahepatic ducts by the general profession. It being, we believe, generally understood that when the terms, biliary passages, or biliary ducts, or hepatic ducts are used, it is understood to mean those ducts or passages outside the liver, which,

in fact, are only a small part of the whole area of biliary passages.

Cholangitis means an inflammation of the biliary passages. In other words, an inflammation of the common duct, the cystic duct, the hepatic ducts, all or any portion of them.

Intrahepatic cholangitis may exist either throughout the whole network of intrahepatic ducts, or involve only a part of it. The predisposing causes that expose the intrahepatic ducts to the invasion of infection are probably more numerous than we know. The bile may, at times, contain



In previous papers we have discussed some of the conditions referable to that portion of the biliary passages outside of the liver. In this paper we will discuss conditions that may be referable to the intrahepatic ducts.

irritating elements in solution, or otherwise. The bile is eliminated by the liver cells from the blood of the portal vein. We are impressed that this blood must be subjected to wide changes in character, having its source from that pool into

which is deposited the products of almost everything terrestial, and in all kinds of combinations, not alone in the pure state, but in all degrees of adulterations. Should we expect the percolations from such a hodge-podge to be always pure and unirritating? The liver cells may not always, for various reasons, be able to separate from this stream the bile in an unadulterated state, free from detrimental substances, which, passing along the intrahepatic ducts, mixed with the bile, irritate the delicate walls of these ducts and predispose to infection. Or consider the condition of the portal stream in diseased conditions of the alimentary tract—typhoid fever, gastric ulcer, chronic enteritis—or in those fermentative conditions that are so common.

Is it strange at all that in these conditions pathologic substances are poured into it, that vitiate the bile and make of it sometimes an irritating, or poisonous stream to the ducts through which it passes, and thus render them susceptible to infection? The intrahepatic ducts are more exposed to the above conditions than the extrahepatic ducts are, by reason of the fact that the bile stream moves much more slowly in the former than in the latter, hence the exposure to these substances is much longer. Not only does the portal blood convey irritating and poisonous elements to the intrahepatic ducts, but it also conveys infection to them.

We know liver tissue is very frequently the foci of pyemic abscesses, the infection being carried to the liver from some other infected organ by the lymphatics. The intrahepatic ducts may be invaded through the same channels, and, we doubt not, often are. They also may be invaded by way of the common-duct, and the intestines, but we doubt the ability of infection to gain entrance to the intrahepatic ducts by this route very often, as they would have to force their way for a long distance against a strong bile current in the common and hepatic ducts.

Infectious conditions of the system are often predisposing causes of this trouble. It is remarkable how frequently cholangitis accompanies and follows malaria, typhoid fever, chronic enteritis, la grippe, and other conditions of a less virulent character. When cholangitis is established it does not tend to recovery, but chronicity, which condition is manifested by frequent acute exacerbations. There is nothing more frequent in medicine than the story we so often hear, usually from women, of attacks of some infectious disease, which has been followed by the so-called bilious spells, from which they have suffered periodically for years. They have not been able to procure relief, though they have quaffed the balm of Gilead from every proffered source.

The early diagnosis of cholangitis is not so easily made, neither are its later manifestations easily differentiated from gall-bladder troubles, especially cholecystitis, the two conditions being present at the same time in the same case. We believe, however, that the primary lesion in these cases is always in the intrahepatic ducts. Unfortunately, however, the condition very often is not diagnosed until the extrahepatic ducts have become involved.

Patients, as we have stated, suffer with intrahepatic cholangitis for years. They endure the torments of stomach trouble and indigestion, sick headache, neuralgia, and migraine, vomiting spells, vertigo, drowsiness, colicky pains, and pains between the shoulders. In other instances they suffer with palpitation of the heart, intermittent heart action, and dyspnea, and, in some cases, true dilatation of the heart takes place. They receive treatment for all of these things, without the slightest benefit. A chronic toxemia accompanies this disease, as is common with all chronic infections. The effects of which manifest themselves in various functional disorders, as mental aberrations and depressions, bordering on insanity, unable to perform the duties of life, nor enjoy its social side. They may lose weight and strength, and prematurely grow old; in other words, they are placed in a condition of chronic invalidism, in which almost all the functions, both physical and psychical, are involved.

Intrahepatic cholangitis, as before stated, is frequently not diagnosed until the extrahepatic ducts have become involved and symptoms of common-duct obstruction, or cholecystitis, have appeared, and then the diagnosis is made of these

troubles, without a thought of the preëxisting intrahepatic cholangitis.

Hepatitis is not always metastatic, and we are sometimes puzzled as to the source of the infection. We believe many times, in these obscure cases, the hepatitis is due to infected intrahepatic gall-ducts. Why should not these diseased ducts ulcerate and perforate, as we know the extrahepatic ducts and gall-bladder do, thus precipitating a hepatitis. May not some of the subphrenic abscesses have their source of infection in these diseased ducts? How prone we are to search diligently for some sign of appendical lesion, from which to trace the source of infection in subphrenic abscess of the right side, forgetting all about the possibility of diseased intrahepatic ducts, that lie almost in contact with the infected foci. The reverse of this is eminently true, the intrahepatic ducts being infected from an hepatitis, or from a subphrenic abscess.

Judging from the few reported cases wherein there is positive evidence of the formation of gall-stones in the intrahepatic ducts, we believe this condition does not often prevail. Yet, it is probable that stones form here much more frequently than we know. Mayo reports five cases in which stones were found in the hepatic duct. Mayo Robson reports four cases. Kehr makes mention of three. Jacobson reports a case of Thornton's, where there were four hundred and twelve stones found in a cavity of the liver substance. McArthur reports a case in which the intrahepatic ducts seemed to be packed full of stones, throughout their extent. The cases reported by Mayo, Mayo Robson, and Kehr, the stones were found in the hepatic duct. The question is, Were they formed here or were they formed in the intrahepatic ducts, and lodged there?

Wherever there is stagnant bile, and the other conditions are favorable, gall-stones will form. It is easy to understand how some of the intrahepatic ducts may become blocked, or partially so, producing stagnation of the bile stream, and a suitable place for gall-stone formation made, and how stones formed here could make their way from small ducts into larger ones, and thus into the common duct, and through the papilla without causing any disturbance. Or they might lodge in the ampulla of Vater, and grow by accretions until they obstructed the common duct, no evidence of their presence being shown until the obstruction appeared.

In intrahepatic cholangitis, local manifestations are not specially marked. If the condition is diffuse there will be some tenderness of the liver, on deep percussion, but the liver is not enlarged, or markedly tender.

As has been proven in a multitude of cases, there is no satisfactory medical treatment for this condition. Saline laxatives, Carlsbad salts, glococholates, etc., are infective and disappointing. Drainage of the whole biliary tract through the gall-bladder offers the only satisfactory treatment. This procedure is without risk, and is curative, and should be resorted to as quickly as a diagnosis is made. We mean by this, early, before lesions are set up in the extrahepatic ducts, requiring more extensive and, hence, more dangerous surgical procedures to remedy the trouble.

For the purpose of emphasizing certain points we recapitulate. The sources of infection in intrahepatic cholangitis are through the portal stream, the lymphatic of the liver, hepatitis, subphrenic abscesses, and, possibly, from the intestine through the papilla and common duct.

The predisposing causes are irritating and poisonous substances from the portal stream, infectious diseases of the alimentary tract, and systemic infectious conditions.

The infection of intrahepatic cholangitis may extend to the liver tissue, causing hepatitis or to the perihepatic tissues, causing subphrenic abscesses, or other infectious foci about the liver. It extends to the extrahepatic ducts, causing choledochitis, and to the gall-bladder, causing cholecystitis, the latter being a sure result of a well-established intrahepatic cholangitis.

We must not, however, draw the conclusion from the above that cholecystitis does not exist without a predisposing cholangitis. Cholecystitis is often a primary lesion, with no involvement of the intrahepatic ducts, but a cholangitis of the intrahepatic ducts never exists long without a complicating cholecystitis; in fact, it is

one of the most common causes of cholecystitis.

A cholecystitis, complicating a diffuse cholangitis, is a far more dangerous and troublesome condition than a cholecystitis alone. A complicating choledochitis is not frequent. It usually manifests itself by an edema of the tissues of the common duct, and an occlusion of its lumen, thus causing a damming back of the bile into the intrahepatic ducts, causing jaundice, and that long line of troubles due to cholemia. Too frequently these are the first symptoms recognized by which the disease is detected and placed in its proper category.

Surgical interference with drainage of all the biliary passages through the gall-bladder is the only satisfactory treatment. This treatment should be instituted early before more complicated procedures are necessary. Therapeutics are infective and disappointing.

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[Written for the MEDICAL BRIEF.]

A Few Lines on the Recent Catastrophe.

BY ROBT. L. WATKINS, M. D.,
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San Francisco, the camp of the forty-niners, to-day lies in ashes, almost completely wiped out by Dame Nature, which also made the gold these people were encamped to procure, for, "In those strange days, people coming from—God knows where—joined forces in that far Western land, and, according to the rude custom of the camp, their very names were soon lost and unrecorded, and here struggled, laughed, gambled, cursed, killed, loved, and worked out their strange destinies in a manner incredible to us of to-day. Of one thing only are we sure—they lived."—*Early History of California.*

And this glittering metal, for which they were laboring, will again be used by these progressive and indefatigable natives of California, to rebuild their magnificent city. The same process that manufactured the gold in the bowels of the earth was the same that produced the two-minute quake of destruction. And who knows but what, at the time of that quake, there was produced ten times as much gold, coal, pyrites, or other metal, as now exists in the whole known geological formation. Most crystallizations, from their solutions, occur with a disturbance; ice crystallizes with a shock, and any one can, by jarring the surface or receptacle of water, when at zero, make it freeze or crystallize immediately.

If the recent catastrophe had occurred before there was a civilized community in this neighborhood, when the Indians were there encamped, with only wigwams for dwellings, there would have been no fire. There would have been only the quake and the roar, and all would have been over. The next day these natives of the woods would have gone about their hunting as if nothing had happened; for they were accustomed to these—night or day—visitations of the Great Spirit.

And so, these Friscoans will attend to their affairs, the same as of old, but it will be in a new city, which takes time to build.

Civilization brings many drawbacks, when nature's forces are to be reckoned in the balance. It was the electric light plants, the gas, and other illuminating and combustible paraphernalia of civilization that caused the conflagration, for there was no fire that came up out of the ground, no lava in this case.

In the rebuilding of this city the process will be quite as interesting, in a picturesque way, as its horrible destruction probably was, to the artist-painter. It will, no doubt, be of steel, and in New York, to use it as an example, the construction of skyscrapers is a most interesting sight, especially on a rainy day, and the rebuilding of San Francisco should be more so. The inside of these steel structures is put up first, and the stone or brick outside covering comes for the last. As these structures go up, story after story, between various kinds of buildings on the same street, reaching to the low-hanging clouds of these drizzly-wet days, the sight reminds one of the story of the Israelites crossing the Red Sea, when the waters were parted with the rod of Moses.

Column after column, and story after story, in a wide, but apparently narrow

street, goes up, and it looks as if the drying up of the waters had suddenly brought into view the remains of some unknown and ancient city. For only the roar of the teams and the noise of the handling of constructing material can be heard, and this sounds like the roar of a Niagara, with the exception of, now and then, the voice of a teamster calling to his horses to gee-up. Such is New York to-day and such will be San Francisco, and of such is all civilization.

These volcanoes and earthquakes remind the physician, in many respects, of man, for when he has a fever it is an effort of nature to get rid of or overcome an obstacle. For instance, when one has a carbuncle there are impurities that must escape to the surface, generally localized impurities; and this is a vent, a miniature volcano, from which human lava will escape. If it does not escape, there will be a chill, an earthquake, and he will know that he is sick, and must retire for repairs. And, thus, we have human earthquakes and volcanoes, as well as terrestial.

[Written for the MEDICAL BRIEF.]

Greek Terms in Medical Language—A Preliminary Collection.

BY DR. A. ROSE,
New York City.

Aasmos, *ὁ ἀασμός*, the exhalation; *ἀάζω*, to exhale with the mouth open.

Abacus, *ὁ ἄβαξ, ακος*, a table or board for drawing, for playing cards, sideboard, in medical language; a table for holding preparations.

Abades, *ὁ ἀβαδής, ες*, one who can not walk yet (*ἀ* privativum, *βα* root of *βαίνω* to walk). Abasia, inability to walk, a functional disturbance, not a disease by itself, but one of the manifestations of hystery, or, in rare cases, caused by central lesion, lesion of the walking center, or by spinal affections. In abasy as well as in astasy it is characteristic that the patients can execute all movements with the legs while in the recumbent position, but while they are standing there is an impediment or there is impossibility of motion. The complex of symptoms has been described by Jaccoud, Charcot and others. Charcot distinguishes abasia trepidans, inability to walk on account of trembling of the legs, abasia paralytica, the legs can not resist the weight of the body, hence impossibility to walk, abasia atactica, characterized by morbid awkwardness and unsteadiness of movements, and abasia choreatica, with choreatic spasms of the legs.

Abaptiston, *ἀβάπτιστος, ον*, something that can not sink, can not be immersed, *immersabilis*, *ἀβάπτιστον τρύπανον*, a trephine that will not sink suddenly. *χειρουργικὸν ἐργαλεῖον, τρυπάνον μετὰ φυλακτῆρος ἐμποδίζοντος αὐτὸ ἀπὸ τοῦ νὰ τρυπήσῃ λίαν βαθέως.* Galen. (A surgical instrument, a trephine with a guard to prevent it from entering very deep into a perforation made by it.) Trephine constructed as not to sink suddenly when the bone has been perforated by it, and thus injure the dura mater.

Abarthrosis (hybrid), (*ab**) *ἀρθρωσις*, aparthrosis (*ap*) *ἀρθρωσις*, is worse than hybrid, it is jargon. Anarthrosis, *ἡ ἀναρθρία*, (*ἀ* priv. *τὸ ἄρθρον*, the joint), without articulation. Diarthrosis, *ἡ διάρθρωσις, εως* (*διὰ*, thoroughly, throughout, and *ἀρθρωσις*, an articulating. An articulation which permits of motion in all directions. Dysarthria, *ἡ δυσαρθρία* (*δυς*, prefix, meaning contrary, evil, faulty), impairment of articulation, *i. e.*, of the motoric acts of the external organs of speech, the integrity of which to the regular internal and external movements is required in order that syllables and words can be produced. Anarthria literalis or Psellismus (*ψελλός*, stammering) or Blaesitas (*βλαισός*, stammering), disturbance in the literal sound formation. This is either of central origin (bulbar paralysis, etc.), or peripheric affection (of hypoglossus or facialis). Anarthria syllabaris (*συλλαμβάνω*, together, *i. e.*, consonants and vowels), the stuttering, a spasmodic neurosis of co-ordination, spasmodic disturbance of the harmonic co-operation of the expiratoric—vocal and consonant—muscular action.

Abdominoscopy (*abdomino*) *σκοπία*—*ἡ σκοπία*, the observation. Recte: Laparoscopy, *ἡ λαπάρα*, the abdomen.

Abdomino-thoracic (*abdomino*) *θωρακικός, ή, όν*, Recte: Laparo-thoracic, pertaining to both, the abdomen and the thorax (*ὁ θώραξ, ακος*, the chest; *θωρακικός, ή, όν*, of the chest.

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* Hybrid syllables in italics.

Abebaeos, *ἀβέβαιος, ον*, uncertain, unsteady, *ἡ ἀβεβαιότης, ητος*, unsteadiness, instability, disorder.

Abepithymia (*ab*) *ἐπιθυμία, ἡ ἐπιθυμία*, the desire, the wish; anepithymia, without desire. Terms with indistinct meaning like anepithymia are unscientific, they express nothing exact. Abepithymia and anepithymia are used to signify paralysis of the solar plexus.

Ablastos, *ἄβλαστος, ον*, having no germination—being sterile.

Ablepharia, *ἀβλέφαρος, ον*, without eyelids. Aplepharia adnata, acquisita, partialis, totalis.

Ablepsia, *ἡ ἀβλεψία, ας* (*ἀ* priv. *βλέπω*, to see), synonyms are *ἀορασία* and *τυφλότης*, blindness.

Abrachia, *ἡ ἀβραχία* (*ἀ* priv. *ὁ βραχίων*, the arm), abrachio-cephalia (*ἡ κεφαλή*, the head) congenital absence of arms and head.

Abrodiaeta, *ἡ ἀβροδίαιτα*, a dainty course of life; *ἀβροδίαιτος*, leading a delicate course of life.

Abrosia, *ἡ ἀβρωσία*, fasting—synonym: *ἡ ἀσιτία*.

Absinth, *τὸ ἀψίνθιον* (*τό φυτον ἡ ἀψινθία* Hippocrates), *ἀψινθίτης*, absinthitis, a wine containing absinth mentioned by Dioscorides, Pliny and other ancient writers. Absinthismus, absinth intoxication, characterized by sudden attacks of vertigo, epileptic attacks, hallucinating deliriums, with unconsciousness and with oblivion after the attacks. Absinthismus may be inherited by children of absinth drinkers.

Abyssus, *ἄβυσσος, ον, ἡ ἄβυσσος*, boundless in depth. A mystic term among the followers of Paracelsus, signifying a receptacle for the seminal matter, *i. e.*, the primitive material out of which substances in general were held to be formed.

Abulia, *ἡ ἀβουλία*, morbid absence of central voliation power in certain diseases of the mind, in hysteria.

Acacos, *ἀκακος, ον*, non-malignant.

Acamatos, *ἀκάματος, ον*, infatigable.

Acampsia, *ἡ ἀκαμψία*, inflexibility, rigidity of a limb.

Acantha, *ἡ ἀκανθα, ης*, 1, a thorn; 2, a spine of the vertebræ or of the tibia; 3, the vertebral column; 4, spina bifida.

Acanthabolus, *ἀκανθαβόλος, ον, ὁ ἀκανθαβόλος* (*ὁ βόλος* action to throw), *χειρουργικὸν ἐργαλεῖον πρὸς ἐξαγωγὴν ὀσταρίων ἢ ἀκανθῶν* (surgical instrument for extracting little bones or thorns. Paulus of Aegina).

Acanthosis (Auspitz) is an epidermic affection consisting of anomalous growth of the prickle cell layer of the epidermis, the different forms are: Hyperaconthosis (*ὑπὲρ* above, surpassing), hyperplasia of the prickle cell layer Typus: wart, condylome, Acantholysis (*ἡ λύσις*, the dissolution), atrophy (*ἡ ἀτροφία* lack of nutrition), Typus: pemphigus. Paracanthosis (*παρὰ* toward), paratypical growth of the prickle cell layer. Typus: the alveolar acanthoms, the skin cancer. Acanthosis nigricans, happens in connection with cancer of the abdomen and consists in pigmented cutaneous papillæ. This form has resemblance to Addison's disease.

Acapnia (Mosso) (*ἀ* priv.) *ὁ καπνός* the smoke, the fume; diminished amount of carbonic acid in the blood, supposed to be the cause of mountain disease. An indistinct therefore unscientific term.

Acardius, *ἀκάρδιος, ον*, absence of heart; that form of monstrosity in which together with a normal fetus, another exists, usually born afterward, which has no heart, and is otherwise malformed in various ways; this monstrosity is either connected with the well fetus through the placenta, or united with it to a larger or smaller extent directly. Acardiacus amorphus (*ἀμορφος, ον*, difform, ugly; *ἡ ἀμορφία*, difformity), formless mass with only rudimentary organs. Acardiacus acormus (*ὁ κορμός*, the trunk), head, developed thorax and abdomen missing, or only rudimentary, pelvis and attached parts developed. Acardiacus anceps (ambo and caput), trunk developed, head and extremities rudimentary, heart likewise. Anideus, *ἀνίδιος, ον*, nothing in particular), or amorphus, lowest form of acardiaci; only a round mass covered with cutis, has its own umbilical cord, or is without such cord attached to the placenta; the interior consists of cellular tissue, fat and rudimentary parts of organs.

Acarus, *τὸ ἀκαρι*, the mite (*ἀκαρής*, minute originally meant for hair which is too short to be shorn *κείρω*). Acarus folliculorum, hair follicle—or comedone—mite in sebaceous glands of the skin, especially of the face and the external ear, a mite living in comedones and acmai pustules; it is of the size of 0.2 mm. Acarus hordei s. crithoptes monunguiculosus (Geber). *ἡ κριθή*, barley. Crithoptes monunguiculosus shall mean a mite which is found

on barley, and has a weapon (a nail); it causes urticaria-like dermatitis of the reapers. Acarus scabiei, the itch mite s. sarkoptes, *σαρκοκόπτης* (*ἡ σάρξ, σάρκος*, the flesh; *ὁ κόπτης*, the cutter).

Acarophobia (*ὁ φόβος*, the fear), the fear of itch happens not unfrequently in persons who have had itch; they suffer from hyperæsthesia of the skin and pruritus cutaneus.

Acatalepsia, *ἡ ἀκαταληψία*, the incomprehensibility (*ἀ* priv. *καταλαμβάνω*, to comprehend), 1, uncertainty as to diagnosis or prognosis; 2, impairment of the faculty of following a course of reasoning.

Acataphasia (Aristoteles), *ἀ* priv. *ἡ κατάφασις*, the affirmation; *κατάφημι*, to affirm; inability to order the words in phrase syntactically; form of aphasia. See Agrammatismus.

Acataposis, *ἀ* priv. *ἡ κατάποσις, εως*, the deglutition, the inability to drink or to swallow.

Acatastasia, *ἡ ἀκατασταsία*, *ἀ* priv. the irregularity especially in the paroxysms of fever; acatastic, irregular.

Acatergastus, *ἀκατέργαστος*, dyspeptic (Galen); *ἀ* priv. *κατά*, towards; *ἔργον*, action; *ἡ γαστήρ*, abdomen or stomach.

Acatharsia, *ἡ ἀκαθαρσία*, the uncleanness of abscesses, of wounds. Hippocrates (*καθαίρω*, to cleanse).

Aceratosis, *ἡ ἀκεράτωσις, εως*, *ἀ* priv. *τὸ κέρας*, the horn, lack of development of the horny formations in the human body. Aceratus *ἀκέρατος, ον*, destitute of horns.

Aceratus, *κηρόδετος, ος, ον, ἀ* priv. *ὁ κηρός*, the wax, destitute of wax.

Acesis, *ἡ ἄκεσις, εως*, or *ὁ ἀκεσισμός*, the cure; *τὸ ἄκεσμα, ατος*. the remedy; *ὁ ἀκέσιος, ον*, the one who cures, a by-name of Apollo; *ἀκέσμιος*, salubrious hygienic.

(To be continued.)

[Written for the MEDICAL BRIEF.]

Unique Features of Infantile Convulsions.

BY E. H. NICHOLS, M. D.,

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To appreciate the cause upon the instant, and combat the sometimes disastrous effects of an infantile convulsion, is a problem which even the skilled practician desires to solve gracefully, and for which the world would readily yield him an ample "kudos," both in gratitude and practical honorarium.

Be it understood, that while sometimes in the very young functional deviations of health far outweigh organic mischief, yet in the field of neurotic disorders sad surprises ofttimes warn us against allowing mental prepossession to warp analytical judgment in the problems of disease.

Assuming that an infantile convulsion is before us, and recognized, we will observe that while it is well to remember that every infantile convulsion, as well as eclampsia in general, is but a *syndrome*, yet there are several points of fixation or impingement which should be learned, and kept ever in mind. The following are salient:

The body and limbs in the tonic convulsion are rigid and immovable, contrasting vividly with the agitated and violent motions of the clonic form.

Tonic convulsions point usually to rachitis, which are ofttimes its diagnostic import.

Clonic or epileptiform convulsions are mostly of cerebral origin, and to know their agitations and violent movements instantly is to establish cerebral treatment at once; while in the stiffened muscular condition we are behooved of some heightened excitability in the spinal cord.

In tetanus we have consciousness; hysterical convulsions it is only partially lost, and a series of screams occurs. In true epileptic convulsions consciousness is totally absent. These are worth remembering. Do not forget that it requires only a slight provocation to induce convulsions in a child under two years of age, and remember that if you can not assign a cause for the disturbance there is a possibility of commencing scarlet fever, measles or pneumonia, and that in malarial locations the convulsion takes the place of the chill.

Recurring nightly convulsions during childhood, especially at irregular intervals without obvious cause, are in all probability true epilepsy.

If, during a particular convulsion in a neurotic child, you also have incontinence of both urine and feces, with shallow, irregular and spasmodic breathing, look out for cyanosis and, later, asphyxia.

A point worth remembering is that convulsions in the robust child, of good par-

entage, are more dangerous than in the more delicate or irritable child, who is easily thrown into the attack. The robust victim is usually the subject of organic cause or inflammatory disease; the ushering in of scarlet fever, with the profundity of its poison overwhelming the child at once fatally. Here, in attempting to cool fever, we avoid the cold bath. The convulsive condition before us can never be looked upon as purely idiopathic, hence much will depend upon our being able to recognize and remove cause. Never use brandy, except with an exhausted child.

Remember, once a child has a convulsion it is apt to recur again.

In a convulsion ask if there has been any suppression of an eruption, or a discharging ear, with subsequent occlusion.

After a convulsion, if the child is able to cry and take a full, deep respiration, and is perspiring, you can predict a returning to the normal, in this seizure, and that refreshing sleep will come.

With the foregoing well in mind, we can place before the busy physician infantile convulsions as a reflex condition, with three points of view as regards etiology, symptoms and diagnosis: Two groups appear prominent; symptomatic, reflexes of the nerve centers, those of meningo, encephalitic hemorrhages, and tumors.

External or manifest convulsions—eclampsia; internal convulsions or spasms of the glottis, material contractions of the extremities—tetanus or trismus. These last are, by all odds, the most frequent; here we have their predisposing causes, hereditary, dominating at times over every feature of their etiology. They appear to be the outgrowth of certain families, while in others they are completely unknown, although occasionally the determined causes.

Sixty-seven per cent is the result of a decided neuropathic hereditary, as a family characteristic, hysteria on the mother's side, principally. Addiction to alcohol in the parents confers this predisposition in a high degree.

Demme, the specialist, has observed out of fifty-seven children born of alcoholics, twenty-five have died within a few days of birth.

Age is as important as family-hereditary in convulsions. While the first dentition has a slight part to play, the experience of Paris hospitals for children shows that the period of greatest frequency is not the *epoque* of first dentition, that is, between six and eighteen months, but occurs, strange to say, during the first six months of life. The first thirty days of life show more convulsions than does those summed up during the rest of the first year. Autointoxication from a digestive cause, high temperature, infectious trouble, or albuminuria, being far more of a cause than dentition. Tight prepuce in the male child is a conspicuous cause. Autointoxication and gastro-intestinal cause go hand in hand in rachitis.

The carbonic oxide from gas combustion in stoves is a frequent cause of eclampsia in large cities, especially in nurslings, their brains being easily affected. The gases, by their density, gravitate within the lower strata of the rooms, where the cradles lie. One cause for convulsions, we should not forget, that of whooping cough, in which it is relatively frequent; yielding external convulsions, ending in spasm of the glottis, which is frequently mortal. Eighteenth to thirtieth day of the illness, and then in a child of the age of five.

In whooping cough a broncho-pneumonia ensuing will surely produce convulsions, and most likely death.

In searching out causes for convulsions, remember: Skin, ears, prepuce, bladder, hernia, testicle in the ring, digestive tube, foreign bodies, dentition, or one of the intermittents in the fall. Hysterical convulsions show normal pupils, sensitive to light, no wounding of the tongue, face not livid, periodical screams. When convulsions alternate with coma and clonic spasms, contractions of the extremities lasting hours, we have meningitis, and a fatal prognosis. If the child is purple, use belladonna and hot bath; empty the bowels in all convulsions.

Partial convulsions are limited to the face and eyes, are the most frequent and least fatal; remember this. No other agent equals *crude* chloral by rectum, made in suppository. General convulsions commence with eyes first, then face, nape of the neck, lastly arms and hands, and in extreme cases, legs. Bad outlook. Chloroform until some safer agent acts; lance

gums if blue. Convulsions from worms are usually *unilateral*, lasting about an hour, and in children from four to six years of age; fluid extract of valerian is nearly a specific for this form. Shrill little cries in series, with an arrest of respiration, either expiratory or inspiratory, lead on to spasms of the glottis; death occurring by *syncope*, very like poisoning with chloroform. Intubation is the only thing.

In convulsions two remarkable forms still remain. The child presents full and prominent fontanelles, occasional screams, drooping head, torpor, eyes half closed; dilated pupils, strabismus, oscillatory pupils, costive bowels; incessant picking at the mouth and nose; hands raised to head, moaning, sighing; waving one hand in the air, or tossing one leg about, while the other is immovable; grinding of the teeth, extreme distress; all this going on while the child is insensible; pupils are filmy and dilated. The body bathed in profuse perspiration, pulse rapid, unequal breathing, coma, indented abdomen and relaxed limbs. This picture delineates the most rapid form of hydrocephalus.

The other remarkable form of convulsion is that in the newborn, where the cord has been entwined around the neck—a laryngo-spasm—characterized by regular paroxysms, and for which remember the bromides and chloral is the only specific, or very nearly so. (The uniqueness of this form should be remembered.) This form can also occur in children under one year, especially at the end of a winter season generally.

Tetanus occurs in children over three months of age. February and April are the preferred months. To bring out a latent tetanus, compress the vasculo-nervous lump at the bend of the elbow.

The hair conspicuously off at the back of the head, of a young child, will warn the astute practitioner to predict rachitis and croup in the near future. Convulsive and hyperthermic centers are located at the back and base of the brain. Remember this in applying cold.

Prognosis of Convulsions.—Fortunately for the child, the functional development of the dominating vasomotor and sweat centers are fully developed at birth, and respond readily and energetically to the demands for heat reduction, even more so than in the adult, and in the bath and sponging we have a marvelous weapon at our command.

Age is a very important factor in prognosis. Eclampsia is a very serious condition when it occurs during the early days of the life of the child. It grades off less seriously as we approach the third month, less and less until the second year is attained.

At the third year of life convulsions again assume their serious import. The newly born are almost sure to die, as hemorrhage, or congenital defect, render the convulsion general. Between the fourth month and the end of the second year, trivial and quickly-removable causes render a convulsion in prognosis especially good. After the second year, the growth and functional development of the nervous system, in the normal child, gradually removes any predisposition to eclampsia; and at five years a convulsion would suggest severe constitutional intoxication, uremia, meningitis, scarlet fever, or pneumonia, or one of the intermittents. The history of constipation and intestinal toxemia go hand in hand with hyper-fermentation.

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[Written for the MEDICAL BRIEF.]

Several Interesting Cases of Obstetrics.

BY D. L. PEEPLES, M. D.,

Late Surgeon Second Texas U. S. V. I.; Ex-Mayor Navasota, Texas; Late City Health Officer; Major and Surgeon T. N. G.; Local Surgeon G. C. & S. F., I. & G. N. and H. & T. C. R. Railways. Navasota, Texas.

Case No. 1.—Mrs. C., quite plethoric, as well as being rather tall; blue eyes, dark hair, somewhat dark complexion, refined, interesting, and in good health. Became pregnant, though shrouded with observable obscurity to some extent.

Symptoms.—Absence of the menses, "married, morning sickness," mammary enlargement, discoloration of the areola tissues, and the constant enlargement of the abdomen. Taking all these symptoms in consideration, I guardedly gave a pathognomic diagnosis of pregnancy. About the fourth month quickening became very

perceptible, growing more forcibly, characterized and not infrequently.

As near as the date of approximation of conception could be fixed, at the expiration of the sixth month, the fetus suddenly thrust its extremities in an untold variety of momentary contortions. The mother, suffering pain simultaneously, temporarily, had retired, sending for me to give an opinion. Upon examination I was unable to detect the fetal heart sounds, or the observation of quickening, nor could the mother determine the latter. The heart sounds could not be detected, nor did the mother suffer further pains, or inconvenience in any way. She remained in bed only a day or so, upon my suggestion. The fetus had expired, and she and myself concluded that we were in error. She continued in good health for twelve months from this period alluded to, when she was taken with a supposed violent paroxysm of colic, suddenly. Being called, I hastened to her relief, administering a dose of morphia hypodermically. Shortly afterward the decidua, filled with liquor amnii, and containing the putred fetus, came away without pain *en masse*, without being ruptured. I then took it away for examination, and when the sack was incised the liquor amnii escaped, emitting a most horrible odor, and the disintegration, or decomposition, of the child was very evident, and extremely disagreeable to remain near by.

The mother sustained no evil effects and continued in as fine health as if the phenomena had never occurred. This is attributed to the fact that the entire mass passed off unruptured, and the outer surfaces being sterile, or asceptic. I only advised remaining in bed a few days, which she did. The fetus being in utero for eighteen months, alive six, and dead twelve months.

Case No. 2.—Was called to see Mrs. L., a Polish woman, who had been confined to her bed in severe labor for three days and nights, without relief. Being unable to ascertain her trouble until my arrival at her home, I failed to take my obstetrical case, but upon examination informed myself that instrumental delivery was the only hope in view. Hurrying home, procuring instruments, and the services of another physician, I soon returned to the case of great misery and an unqualified case of terrific labor. Having sterilized my instruments and prepared my hands, I requested the doctor to commence the anesthetic. Then I discovered the protrusion of a hand, the right parietal resting against the symphysis, and the left side against the sacrum, as tight as a wedge in a log. The child was very large and still alive. Attempts at version were impossible, neither could the forceps be applied. I was necessarily compelled to disarticulate the shoulder, and remove the infant by piecemeal.

Against my advice that woman was at her usual avocations on the third day. To intersperse, would suggest that it is remarkably rare in obstetrics that I am compelled to resort to the use of instruments. After being confined to bed with continued malarial fever for a period of about thirty days, I was summoned in consultation with Dr. ——, to see Mrs. S., Case No. 3, age about twenty, a primipara, blue eyes, dark hair, fair complexion, short and rather stout, being a very good conversationalist; whereupon I urged my utter physical inability, though constant insistence induced me to attempt the call. On my arrival I met the congenial attending physician. The mother had suffered intensely for about two days, and I soon acquainted myself with a breech presentation, which was so strongly and intensely lodged in the pelvis that a version was impossible. Having made all necessary preparations, I then tendered my services for the purpose of administering the anesthetic, but the attending physician, as well as the family, insisted on my making the delivery. Feeling perfectly exhausted, I entered into the case with complete abnegation, applying the forceps to the hips twice, but on both occasions they slipped. I next placed a hook or crotchet around, well in the groin, making traction, and gradually got it where I could get my fingers in both groins; then soon delivered the patient. The infant was dead, but the mother made a good recovery without injury.

Ten months later I made another instrumental delivery with usual good results in the same woman, the baby being very large and beautiful. A few days after having delivered Mrs. S. the first time, I was called to see Mrs K., a Jewess. I

then informed the messenger of my frail condition, and begged to be excused. Upon my refusal, her sister came in person and appealed to my sympathies in attending her sister, whereupon I failed to comprehend the definition of refusal. It was only two blocks away, so I soon arrived, only to discover another breech presentation. After due consideration and cleanliness I gave her chloroform, and found that I would make delivery without version, which I soon did, and returned to my bed perfectly exhausted, there to remain with fever for another month, as I did in the former delivery.

Case No. 4.—On the morning of the 19th March, I was called to see Mrs. H., primipara, blue eyes, dark hair, complexion neither dark nor fair, aged thirty-five, very plethoric, weight in proportion. Visiting her on the morning of the above date I found her suffering with prodromal pains. She is quite refined and very entertaining. Examination revealed the fact that the os was tightly contracted, the cervix long, rigid, thick, fibrous and unyielding. Called second time on the evening of same date at about six P. M., finding the patient in right hard labor, but with very little change in regard to the os and cervix. I then requested the family to advise me when my services would be required. Was called at ten P. M., same date, finding the patient in strong, but not frequent pains. I frequently attempted to dilate the os, with only partial results. I then gave her chloroform, thinking that by anesthetism it might produce relaxation, but this only aided in a slight degree, of course observing antisepsis and asepticism all along. At this time one finger could be admitted into the os. I concluded that labor should be terminated; therefore, I suggested that Dr. Harris be called in. My instruments being sterile, hands prepared, he then began the anesthetic, while I proceeded to dilate the os. Soon out came the right hand, which was returned several times, and version attempted, with failure. The last time on returning the hand I finally succeeded in introducing my hand in utero, continuing to make a version when at my best. I seized the right foot, but it was impossible to grasp the other, all attempts proving futile. I concluded to be satisfied with one and pulled it down, then took my hook and finally got the other. After having procured both, I gradually drew them down until I got the hips, thinking there would be no further trouble, but matters progressed very slowly until I could reach one finger over the shoulder and bring each arm down with the same method, the head being still engaged. I have often read of pain resulting from uterine pressure upon the inserted hand, but to my mind this problem had not been made clear to me until this delivery, which did occur. Thus, I have had that experience for once. Now that the entire trunk, including the extremities, being delivered, I pressed the child in a lateral position upon the mother's abdomen, requesting an assistant to securely retain the child in that position until I could crush its head with craniotomy forceps; but time and again I attempted this operation with failure, as the child's body was in the way, or obstructed the course. Being exhausted, I requested Dr. H. to prepare his hands and to complete the work, while I continued the anesthetic, but his efforts resulted in failure. Then we determined on perforation, the head being still engaged. I suggested that he proceed, but it amounted to *nil*. He then suggested that he had a pair of cranioclasts that would do anything; so I advised that he get them, while I continued to manipulate until his arrival, and then tried his cranioclasts, but obtained no results. Then I suggested that he try them, but failure also resulted. The patient was, of course, drawn across the bed, close up to its edges. She was on a Kelly's pad, with antiseptic towels around both thighs, under the buttocks, and over the abdomen, also cleansing of the vaginal canal and the vulva. All of this was done under the most trying conditions, and every maneuver imagined was resorted to without success. Then I suggested decapitation, which was done, leaving the head in utero, and it then going high up into the abdomen. Having decapitated, I gradually succeeded in introducing one blade of Hodge's forceps high up, as I well realized that if it were not sufficiently high it would turn, though you may have an assistant to attempt holding the blade in proper position; then I soon introduced

the other and locked my forceps, which brought to my heart gratitude and happiness. Now, making the proper traction with sufficient force, I succeeded in disengaging the head and soon brought relief. The reader must here remember that the os was just sufficiently patulous to admit the blades.

I immediately proceeded, after delivery, to introduce my hand into the fundus and go around the placenta, placing my left upon the abdomen, bringing about uterine contraction and pressing it forward, which I soon delivered. For twelve years I have immediately introduced my right hand and removed the placenta in this way, but more recently have waited, or deferred this matter for from ten to fifteen minutes, and this with a single death, the first case I had; suffered with retained placenta, and I had an old physician to remove same, as I was young and inexperienced, which resulted in death.

Through the difficult labor that occurred recently I must here remark that patient did not take a single dose of medicine, except the inhalation of chloroform. Next, I expected septicemia, but not the least trouble occurred, as I administered two bichlor. douches daily for two days, and then continued the same once daily for three more days, when, at the expiration of five days, I discharged her. She remained in bed about eight or ten days, and now enjoys better health than previous to conception. Furthermore, I might state that I also dressed the vulva antiseptically in person, myself.

In this paper I have only reported my failures and not my successes in this line. I still have many more interesting cases in this department, including some anomalies, such as imperforate anus, numerous fingers, etc.

[Written for the MEDICAL BRIEF.]

Alstronia Constricta.

BY JOHN ALBERT BURNETT, M. D.,
Cecil, Arkansas.

Alstronia constricta is a drug which is not known to very many physicians, but it is an extremely valuable remedy in many conditions. I have used this drug enough to come to the conclusion that it is equal to any single drug as an antiperiodic. It is a general tonic for all depressed and atonic conditions, its action resembling the combined action of nux vomica and cinchona; hence, any one can readily see the wide range of usefulness in various diseased conditions.

Alstronia constricta sustains the circulation, and is a very good heart tonic to use in the last stages of several diseases, such as pneumonia and typhoid fever, when the strength of the patient, and the heart's action needs sustaining. Its action on the heart resembles cactus more than any other drug. In typhoid fever alstronia constricta is of great value. It causes the fever to run a mild course, and the patients soon gain strength when it is broken. I suppose it is its antiseptic and tonic properties that makes it so useful in typhoid fever.

In typhoid fever, when the skin is very dry, it can be combined with corallorhiza odontorrhiza.

Alstronia constricta is not a laxative, but it has a tendency to clean a coated tongue.

It is a valuable stomach tonic, acting somewhat like gentian, but milder.

This is not a toxic agent, but a very active one. In large doses it produces unpleasant head symptoms, similar to those produced by quinine. In la grippe and bad colds, which occur in both summer and winter, alstronia is of great value. In these conditions it can be combined with diaphoretics.

To keep a chill off give one grain of powdered alstronia constricta every hour until six to ten doses are taken, beginning so the last dose will come one or two hours before the chill is due. At other times give two grains every three hours. When using it in malaria it should be preceded, or alternated, with some good cholagogue, and for this purpose none is better than chionanthus.

If the spleen is enlarged it can be combined with berberine muriate. I have cured chronic malaria with a combination of alstronia constricta and berberine muriate, after quinine, Fowler's solution and compound tincture had failed.

Any physician who will give alstronia constricta a thorough test will like the remedy. It can be obtained in powder and tincture.

Book Notices.

THE MEDICAL DISEASES OF INFANCY AND CHILDHOOD. With Points on the Anatomy, Physiology, and Hygiene Peculiar to the Developing Period. By Alfred Cleveland Cotton, A. M., M. D., Professor of Pediatrics, Rush Medical College, University of Chicago; Attending Physician for Diseases of Children, Presbyterian Hospital; Consultant to the Central Free Dispenary etc. Philadelphia and London: J. B. Lippincott Co. Price, $3.50.

This is a volume in Lippincott's New Medical Series, which is edited by Francis R. Packard, M. D. These volumes are by the most talented authors and very reasonable in price; this volume having nearly seven hundred pages. The need of a more thorough preparation for the study of clinical pediatrics than is afforded by a general knowledge of the anatomy and physiology of adult life, is so evident that considerable space is devoted to these subjects with reference to the developing period. This is a work that commands more than a passing remark, but space forbids a further expansion of notice. Get a copy and you will be pleased.

NASAL SINUS SURGERY, WITH OPERATIONS ON NOSE AND THROAT. By Beaman Douglass, M. D., Professor of Diseases of the Nose and Throat in the New York Post-Graduate Medical School and Hospital. Illustrated with sixty-eight full-page half-tone and colored plates, including nearly one hundred figures. Royal octavo, two hundred and fifty-six pages. Bound in extra cloth. Philadelphia: F. A. Davis Company, Publishers. Price, $2.50.

All the students who have seen the operations and heard the teachings of Dr. Douglass will appreciate this work, as well as those who have not had this pleasure will profit by reading it. The work is excellent in teaching and illustrations, and will be of value to not only the specialist, but the general practitioner as well. The student who is taking a course in nose and throat work can not afford to pass it by as being too advanced, as he will soon have to be posted in the general practice and technique of its teaching. By all means add this work to your library—if only for reference.

FOOD AND DIET IN HEALTH AND DISEASE. By Robert F. Williams, M. A., M. D., Professor of Practice of Medicine in the Medical College of Virginia. Philadelphia and New York: Lea Brothers & Co. Price, $2.00.

This is a manual for practitioners of medicine, students, nurses, and the lay reader. It comprises one handsome volume of three hundred and ninety-two pages. The vital question of the day is, How should we feed our patients—in health as well as disease? This work does not go into the elaborate scientific investigations of chemists and physiologists, but gives clear facts as to what is needed in all cases, so that any one can clearly understand. Doctors can commend this book, their nurses or patients feeling assured that the requirements can be carried out to suit the case. For mothers the book will be valuable. This is a book that appeals to physicians, students, nurses, and the laity. A book worth considering in all conditions.

A MANUAL OF BACTERIOLOGY. By Herbert W. Williams, M. D., Professor of Pathology and Bacteriology, Medical Department University of Buffalo. Revised by B. Meade Bolton, M. D., Expert, Bureau of Animal Industry, Washington, D. C. With one hundred and eight illustrations. Fourth Edition, Revised and Enlarged. Philadelphia: P. Blakiston's Son & Co., Publishers. Price, $1.75.

Recent advances in bacteriology have made it imperative to enlarge the chapters on poisons and on immunity, and the additional space given to these chapters are amply justified by the information they contain. If you are interested in bacteriology in the full sense that the subject calls for, get this work.

THE STRANGE STORY OF THE QUILLMORES. By A. L. Chatterton. New York: A. L. Chatterton & Co., Publishers. Price, $1.50.

It may seem strange to the physician to read this title in a medical journal, yet all physicians enjoy reading on the borderland of medicine, especially when the principal character is a physician. It comes from a good source when we chronicle that the writer has been for more than a quarter of a century a medical publisher. There are many strange and exciting episodes in the book, and the dramatic incidents are bound to hold the reader to the end, and the expression will

be—hope the author had continued the story indefinitely, owing to the exciting scene in the very last chapter. The only fault is, that when you begin reading it will be found hard to lay it aside for another time to finish reading. It is a readable work for leisure moments. Do not fail to get a copy.

FOOD AND THE PRINCIPLES OF DIETETICS. By Robert Hutchison, M. D. (Edin.), F. R. C. P., Assistant Physician to the London Hospital and to the Hospital for Sick Children, Great Ormond Street; Author of "Lectures on Diseases of Children," "Patent Foods and Patent Medicines;" Joint Author of "Clinical Methods." With Plates and Diagrams. Revised Edition. New York: William Wood & Co., Publishers. Price, $3.00.

Dr. Hutchison says he wishes to thank physicians for their appreciation of his work. On both sides of the "pond" his work has been accorded a welcome—and justly so. The important changes in the present issue will be found in the dietetics of disease which a wider clinical experience has enabled the author to expand considerably. Nearly every chapter has been altered and added to because the experience of the advances made in the past seem to demand such. This is a trying and important subject and demands the most careful study, if results are desired; therefore it should have a most careful reading.

THE OPHTHALMOSCOPE AND HOW TO USE IT. With Colored Illustrations, Descriptions, and Treatment of the Principal Diseases of the Fundus. By James Thorington, A. M., M. D., Author of "Refraction and How to Refract" (Third Edition), and "Retinoscopy" (Fourth Edition); Professor of Diseases of the Eye in the Philadelphia Polyclinic and College for Graduates in Medicine; Member of the American Ophthalmological Society; Fellow of the College of Physicians, etc. Seventy-three illustrations, twelve colored plates. Philadelphia: P. Blakiston's Son & Co. Price, $2.50.

In order to avoid reading the verbose text-books on the diseases of the eye, we would suggest to those interested a careful perusal of such works that give the subject a scope that is practical for the general practitioner. The writer has planned a work that is systematic and practical, and thus brings to the knowledge of the general practitioner the principles he so much needs in his practice. To enhance the value of the work the writer has selected for his descriptions and illustrations those diseases of the eye ground which appeal to the general practitioner in everyday practice. We believe this work on the eye will appeal to every practitioner of medicine, regardless as to the fact that he is not an ophthalmologist.

DIFFERENTIAL DIAGNOSIS AND TREATMENT OF DISEASE. A Text-Book for Practitioners and Advanced Students. By Augustus Caillé, M. D., Fellow of the New York Academy of Medicine; Member and Ex-President of the American Pediatric Society; Professor of the Diseases of Children, New York Post-Graduate School and Hospital; Visiting Physician to the New York Post-Graduate and German Hospitals; Consulting Physician to Isabella Home and Hospital, etc. With two hundred and twenty-eight illustrations in the text. New York and London: D. Appleton & Company. Price, $6.00.

From a thorough reading of this work we have come to the conclusion that the general practitioner will find that the practical nature of a work depends on the scope of application, as regards diagnosis, and a treatment that has merit and stability. We find this work one that can be relied on when we are at a loss as to the real trouble. Physicians are so often at a loss to distinguish the difference in symptoms in order to make a correct diagnosis, and we all know that the battle is often won when the true status is gained. The diagnosis once established, the remedy is at hand.

A COMPEND OF MEDICAL CHEMISTRY—INORGANIC AND ORGANIC. Including Urinary Analysis. By Henry Leffmann, A. M., M. D., Professor of Chemistry in the Woman's Medical College of Pennsylvania and in the Wagner Free Institute of Science. Fifth Edition, Revised. Philadelphia: P. Blakiston's Son & Co., Publishers. Price, $1.00.

To the student who wishes to secure works for his final examination in the different branches of medicine and the collateral sciences, there are none better than the "Quiz Compends" of Blakiston's Series. If you are interested in any branch particularly, get a list of the Quiz Compends, and order what you want at $1.00 each, and you will find a good thing to have for reference.

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Editorial.

Do Not Follow Blindly.

Men are very much like sheep. In some way or other some one becomes acknowledged as the leader, and nearly all the rest follow blindly, whithersoever the leader may go. This is true in every walk of life, and under nearly all circumstances. Just because a certain politician whom you have been accustomed to regard as a statesman is in favor of some law, you ought not to accept it as absolutely the correct thing. Think about it yourself. The chances are that you know more about the particular measure than the politician himself. If some great theologian declares such and such a theory to be gospel truth, do not accept it as true until you have analyzed the proposition and come to a belief in it from your own independent investigation. If a famous physician makes an assertion regarding some problem you have been trying to solve, it is well enough to give due consideration to it, but do not follow him blindly. Study the question yourself. If, after such study, you come to the conclusion that the great physician is correct, make his idea your own; but if your own investigations lead you to a different conclusion, do not hesitate to assert yourself, and to defend your own conclusion against the world. The medical profession would never have made any progress if there had not always been a large number of doctors who had minds of their own, and who insisted on being guided by their own reasoning, and refused to follow blindly the leadership of anyone, however high he may be regarded generally as an authority.

Blackmailing.

Blackmailing is contrary to American principles, and has always aroused popular indignation when attempted in this country. The people resent the pryings of a busybody and meddler, no matter

how loudly he may protest that his motives are wholly unselfish and his labors solely in the interest of the public good. Some manufacturers of ethical proprietary remedies widely prescribed by physicians have recently been the target for much abuse and villification, but we are informed by one of wide experience in the medical journal field that in nine cases out of ten when an effort is made to injure some worthy preparation, it is due to the refusal of the manufacturer to put up money or its equivalent to secure immunity from such an attack. We wonder what the profession will say when the facts leak out regarding some of these attempts at blackmail, and how some so-called reformers will enjoy being shown up in their true light?

A Short-Sighted Policy.

It is a short-sighted policy on the part of the ultra-ethical doctor to allow the commissions offered by the druggist to influence him in favor of substitutes as opposed to proprietary remedies of established value. His patients do not receive the same results as from medicines of tested merit, and he consequently loses what little practice he may have. It is usually the very young man who follows this course—the substantial physician always uses what he has found to be best for his patients regardless of what the other fellow says.

Have You a Superior?

Every good physician should believe himself-the equal, both mentally and morally, of any living person, and should never admit that he has a superior.

How Does He Know?

Editor of Medical Brief:

Will you kindly allow me to ask your Atlanta correspondent how he *knows* the Adam and Eve story is not true? I must confess that personally I neither believe nor disbelieve the story, for the reason that I have no means of *knowing* whether it is true or false. Believing or disbelieving a thing, however ardently, does not prove either its truthfulness or falsity. Anyone who will enlighten us on this subject will very much oblige.

A WESTERNER.

Query.

Did Adam have a navel? This question was discussed in all earnest by great scholastics of the middle ages; they wrote treatises, large volumes in folio, exhibiting profound learning; all on this vexed question. NEW YORK DOCTOR.

Diphtheria.

Dr. Max Boehm, the president of a medical society in Weimar, Germany, writes in the "Archiv für Physikalisch-diätetische Therapie in der Ärztlichen Praxis," April, 1906, as follows:

"The end of the 'curative' anti-diphtheritic serum is imminent; the number of physicians who have recognized its uselessness, are increasing. Amongst others, Prof. Bourget, of Lausanne has become an adversary to this repulsive poison. He has tested the therapeutic of the anti-diphtheria serum on the large pathological material at his disposal and arrived at the following by no means astonishing conclusion: 'I do not hesitate to assert that the so-called anti-diphtheria serum does not possess the specific curative properties which have been attributed to it.'

"Considering that judicial proceedings have already been instituted against some of those who had failed to apply the serum, although no sentence was imposed upon them, the publication of Professor Bourget's statement can only be hailed with satisfaction. Probably the time is not far distant, when clinical investigations will have established the uselessness and danger of the anti-diphtheric serum and that those will be prosecuted for neglect of duty who continue to inject it. It appears inconceivable that the State still appropriates funds for the examination of this anti-cure diphtheria serum."

This notice will interest the readers of the MEDICAL BRIEF who have seen Professor Bourget's article on "The Present Treatment of Diphtheria" in the May number of the BRIEF.

New York. DR. A. ROSE.

THE MEDICAL BRIEF

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[Written for the MEDICAL BRIEF.]

On the Modern Diagnosis and Treatment of Syphilis.

BY DAVID WALSH, M. D.,

Senior Physician Western Skin Hospital; Honorary Physician Queen's Jubilee Hospital, London. West.
London, England.

The progressive nature of medicine as a profession is well illustrated in the position with regard to venereal diseases. Step by step it has advanced from the first vague gropings of ignorance until at length the etiology, the cure, and in all probability the means of ultimate prevention, are in our hands. To this marvel of human attainment the work of many toilers in disease scientific fields has been contributory. The alchemistry of the middle ages, the invention of the microscope, the patient toil of generations of clinical observers, and last but not least the rich harvest of modern bacteriology, have all led up to our present high standard of achievement.

In spite of our advances, however, much remains to be done before the study of venereal diseases will attain the footing of an exact science. The subject of nerve syphilis, for example, is still to a great extent *terra incognita*, while little is definitely known of the part played by the gonococcus in systemic infection. But it is not proposed in this article to discuss rare phases and obscure problems in connection with this interesting and important class of maladies in question, but rather to glance at some of the doubts, difficulties and errors that have been encountered during some fifteen years of hospital and private special work in diseases of the skin. Of the points thus raised some, at any rate, may have doubtless become more or less familiar to readers in the course of their own practice. At the same time I hope to relate certain experiences that, while less familiar, may nevertheless be suggestive and to detail certain practical methods that have proved useful in the diagnosis and the treatment of syphilitic manifestations. While there is no claim to originality, it may be well to remark that much of the latter technique has not yet reached the text books.

In ordinary cases of syphilis there is obviously little difficulty in making a diagnosis. The signs are writ so large in the history and the appearance of the patient that he who runs may read. In atypical cases, on the other hand, even the most skilled and cautious observers may now and then be baffled, a fact that will be illustrated a little later by several striking instances.

It may be well to consider for a moment the chief sources of error in the diagnosis of syphilis. One of the most common and misleading is the curious

mimicry of other skin eruptions which is characteristic of that disease. The resulting confusion, however, may as a rule be avoided by a careful examination of the rash in all parts of the body, when the syphilitic rash will be found to be multiform and its mimicry imperfect in micros, but nevertheless important details. Another great source of error is the frequent absence of any previous history of syphilis. In tertiary manifestations, indeed, some authorities place the percentage in which there is no specific history at one-half, and this includes such objective signs as scarring and damage to eyes, throat and bones.

The parallel between the specific infections of syphilis and of tubercle is interesting and instructive. Both processes may extend over many years and may involve almost any bone of the body. Both are due to a specific microbial infection. At times it may be impossible to say from simple inspection, in the absence of a definite history, whether a given lesion is of syphilitic or of tubercular origin. Here we come to our first point in practical diagnosis—the diagnostic value of tuberculin injection. The test is no less simple than safe and trustworthy. A portion of the skin surface, preferably the loin or the buttock, is sterilized and a milligram of Koch's old tuberculin slowly injected by means of a sterilized hypodermic syringe fitted with an accurately ground-glass piston. It is hardly necessary to add that if the temperature does not rise one or two degrees within twelve hours double the quantity may be administered on the second or third day, and if that also prove negative five times the dose may be given on the fifth day. Should there be no temperature reaction after these injections it may be safely assumed that the lesion under observation is not tubercular. On the other hand, the access of fever and of local reaction establish beyond doubt the presence of a tubercular lesion.

The following case illustrates the diagnostic value of tuberculin in a doubtful eruption.

J. W., a waiter, aged fifty-nine, well nourished but sallow, came to hospital in December, 1905, complaining of a rash upon the buttock, of three years' duration. He had good health up to 1895, when he suffered from fistula. In 1900 he was attacked with double pleurisy and was treated at a London hospital for a year, at the end of which time he was successfully operated upon for fistula in ano. Since then a painless eruption had gradually spread from the margin of the anus until at the time of admission it measured five and a half inches across. It was slightly raised, red, rounded, non-irritating, with an undulating surface, sharply defined margin and no satellites. No evidence elsewhere either of syphilis or of tubercle. A milligram of tuberculin injected hypodermically produced no reaction, but as the temperature on admission was slightly above normal the result may have been masked. Two milligrams were injected on the following day. After the second dose the temperature ran up to 100°F., while the eruption grew distinctly redder. A third injection of three milligrams on the fourth day raised the temperature to 99°F. The diagnosis of skin tuberculosis being thus established, the patient was treated with curative injections of Koch's tubeculin, T. R.

Unfortunately, in dealing with syphilitic rashes, so far we have discovered no similar diagnostic test. There is every reason to hope, however, that before long the parallel between syphilis and tubercle may be rendered more complete by the introduction of a diagnostic drug for syphilis. The first great step in that direction has been taken in the detection of the specific virus of syphilis in the shape of that somewhat elusive organism, the *spirochæte pallida*. Meanwhile, failing such means of definite control of observation, the best of us are often caught napping with regard to syphilis. One of my earliest and most instructive experiences of the kind was at a famous hospital for diseases of the skin, where I was acting at the time as clinical assistant. A girl of thirteen or fourteen years of age presented herself with a recent rash, which was diagnosed as acute psoriasis by two of the surgeons, one of them a man of unrivalled skill and experience. That opinion was confirmed by other competent observers. The patient was subsequently sent under my charge to a clinical

meeting, where the rash was pronounced syphilis at sight by a surgeon of world-wide fame. The aftercourse of events proved that he was right, for the girl was admitted to hospital. The development of mucous tubercles and other characteristic signs left no doubt as to the presence of specific mischief. The occasional difficulty of diagnosis in the case of syphilitic eruptions could hardly be more clearly demonstrated.

Not long ago two misleading cases came under my own care at a skin hospital, where one is naturally always on the alert to detect syphilis. For awhile it must be confessed that their real nature escaped detection.

The first case was that of a youth, nineteen years of age, who presented himself on November 4, 1904, with what looked like an acute weeping eczema of the hands. He stated that he had recently been in bed three weeks with quinsy and influenza, and that about a year ago he had a non-irritating rash upon the body. On his next attendance, November 16, he was found to have the trunk almost covered back and front with sharply defined patches, so clearly resembling chloasma that scrapings were examined under the microscope. No fungus was present, but further examination showed the patient to be suffering from syphilis. In this case the misleading factors were the mimicry of eczema and the confided history of "quinsy," and influenza—otherwise, specific pharyngitis and syphilitic fever.

The second case was that of a girl, twenty-one years of age, attending the hospital at the same time as the last patient. She first came on September 1, 1904, complaining of a rash about the body and limbs, and this she stated she had suffered from since five years of age. Her head was scurfy and showed raised scaly patches that suggested seborrheic lesions of psoriasiform type. She was spattered more or less all over with red, scaly inflamed patches, also suggestive of seborrhea, in which the eruption had been irritated by the use of a quack ointment. Both scalp and skin improved rapidly under local treatment. On October 20th she complained of cramps in the legs, for which salicylate of soda was given. Early in January, 1905, a chance remark revealed the fact that her brother was under my care at the same hospital, and it was then found that he was the patient whose case has been above recorded. Acting on the hint, a closer investigation showed that the girl was also suffering from syphilis. The misleading point here seems to have been the co-existence of a scaly syphilide with a pre-existing chronic seborrheic dermatitis, or, as many would call it, psoriasis. Apart from her rash, it may be remarked the girl had a fresh color, and looked the picture of health. Both patients improved rapidly under anti-syphilitic remedies, but both, in spite of repeated warning, left off treatment long before a cure had been established, and vanished into the outer world of woe that must be pretty thickly peopled with flippant and reckless hospital patients.

The opposite pitfall of regarding non-specific cases as specific is not uncommon. One of the most remarkable instances that ever came under my notice was that of a watchmaker who first came under my care as a hospital patient in July, 1896. His whole right hand was red, tender and desquamating in fine scales; the nails were deformed and discolored, the fingers stiff and partially bent, and for some years he had been unable to follow his occupation. This condition had begun about eight years previously as a spot in the palm of the hand and had spread gradually until at the time of admission the eruption involved the whole hand and wrist, while there were a few round, somewhat shiny outlying patches on the forearm. Good family and personal history, except that twenty years before he had a sore on the penis, without rash, sore throat or other subsequent symptoms. At various times he had been under the care of some of the best known dermatologists of London, all of whom, with the exception of the one who saw the rash on its first appearance in the palm, pronounced it tertiary syphilis and gave him mercury and iodides.

Before coming under my care he had been thus treated by another skin physician. Personally, I came to the same conclusion and adopted a similar line of treatment. After a time he left me and placed himself under a well-known author-

ity on syphilis, who used anti-specific remedies with no better results. Eventually this much-treated patient returned to my clinique with the lesion still slowly extending. I was much struck with the failure of mercury and the iodides to effect a cure after so long and thorough a trial in a patient whose general condition was satisfactory. Upon careful investigation I became convinced the case was one of lupus erythematosus. I showed him at a dermatological society, where he was seen by several of the physicians under whose care he had been. Among them was the physician who saw the rash when it started in the palm, and who agreed with me that it was non-specific. To make a long story short, the patient recovered completely under local antiseptics within a year. The skin returned to its normal appearance and he regained the use of his hand, including the fine movements needed in watchmaking.

To my mind the lesson to be gathered from the foregoing experience is that *if an apparent syphilitic lesion does not yield to prolonged antisyphilitic remedies our diagnosis may be at fault.*

Conversely, in doubtful cases I have great faith in the evidence afforded by the action of mercury and iodide of potassium. Of course one must be prepared for the fallacy that non-specific skin troubles may be cured by those drugs. At the same time I know very few non-specific rashes likely to be materially benefited by the internal administration of mercury and none at all by the iodides. In short, the evidence afforded by the influence of the drugs mentioned upon skin eruption is not absolute, but it is nevertheless corroborative and suggestive in the very situation where ordinary evidence is at times extremely defective. As a matter of common experience the action of grey powder is often most useful in dealing with some doubtful rash in a baby, especially if it has resisted local treatment.

Another practical point in the administration of anti-syphilitic remedies is worthy of more general attention, namely, *when a case of evident syphilis at any stage does not yield to ordinary methods of treatment it is well to try other combinations and methods of administration.* In appropriate cases inunctions or vapor baths may be invaluable. Of late years the direct introduction of anti-syphilitic remedies into the system by means of intramuscular and intravenous injections has come into considerable vogue, especially on the continent of Europe.

As regards mercury, insoluble preparations have been for the most part abandoned in favor of soluble salts for direct administration. It seems to be generally admitted that the intramuscular injection of insoluble salts is more active, but that of the soluble salts has fewer drawbacks. Fournier, of Paris, has pointed out that the weekly injection of grey oil is an extremely active treatment. He advocates its use in (1) phagedenic chancres; (2) tertiary phagedenism; (3) dry tubercular syphilides or tuberculecrustacea; (4) gummatous laryngitis; (5) palmar and plantar psoriasis; (6) syphilitic lesions of the tongue.

*The grey oil is made with metallic mercury or with calomel; as mercury, three parts; lanoline, three parts; rectified olive oil, four parts. Or, sublimed calomel, one gram; pure liquid vaseline, ten c. c..

Any form of injection is liable to be followed by pain and septic abscesses, fever and pulmonary embolism; while, if continued over too long a period they lead to loss of weight and damage to general nutrition. In the young unsoluble preparations are dangerous, but the benzoate and sublimate are well borne. The intramuscular injection of calomel is said to be extremely valuable in gummatous laryngitis, in gumma of the tongue, and in palmar and plantar psoriasis where all other methods have failed.

The average weekly dose of calomel is ten centigrammes, and of mercury seven or eight centigrammes, and forty to fifty centigrammes for the complete treatment.

Among soluble salts for intramuscular injection corrosive sublimate has been used, as in the formula:

℞ Hydrarg. Perchloridi ..... 1 gramme.
Sodii Chloridi ..... 10 grammes.
Aqua Destillatæ ..... 100 grammes.
Dose: One cubic centimeter.

This salt, however, is apt to cause a painful lump at the site of injection.

* *Medical Press and Circular*, February 7, 1906, page 148.

*Stephenson recommends a one per cent solution of mercury, cyanide ten minims twice or thrice a week, and this preparation will be found excellent. Biniodide of mercury can be injected in oily solution, and as it is slowly absorbed, can be injected once a week, or it can be given in watery solution. Mercury biniodide, one; sodium iodide, two; boiled distilled water, one hundred.

For intravenous injection a solution of mercury salt in physiological salt solution may be used. The formula is:

℞ Mercury Cyanide..... 1 part.
Sodium Chloride..... 75 parts.
Boiled Distilled Water.....100 parts.

Dose: Twenty to forty minims daily in urgent cases; otherwise twice or thrice weekly.

The main points to be attended to in the direct method are:

1. To use soluble salts.
2. To sterilize the skin over the seat of injection and the hands of operator.
3. To sterilize syringe by boiling and to use a syringe with a glass piston.
4. To inject deeply into buttock, back, loin, shoulder, etc., in the intramuscular plan.
5. In the intravenous injection to make a vein of hand or arm prominent by tying a fillet round the upper arm. The vein is steadied by the thumb of the operator and the needle pushed obliquely through the anterior wall of the vein. It is best to make sure that the needle is inside the vein by drawing a little blood into the syringe.

Properly carried out, the intravenous method is safe and almost painless. It has the great advantage that it can be carried out by the medical attendant himself. Its peculiar value lies in the rapidity and the trustworthiness of its action in dangerous and obstinate syphilitic attacks. A continental authority has stated that eight hours are gained as compared with ordinary mouth administration. We knew that a drug may go the round of the circulation within a period of time that is estimated in seconds. In certain syphilitic diseases of the eye, perhaps more especially in senile syphilis, time is all important, and the intravenous method becomes invaluable. The same may be said of syphilis of the nervous system, above all where there are cerebral lesions.

* *Medical Press and Circular*, August 30, 1905.

At the same time, it should be clearly stated that for ordinary cases of syphilis ordinary methods of drug administration suffice.

In conclusion, a word may be said about the future diagnosis of syphilis. The discoverers of the *spirochæte pallida*, Schaudinn and Hoffman, do not assert that it is the cause of syphilis. At present they are content with merely stating that the parasite in question is found in constant association with all syphilitic lesions of the secondary stage. Since their first report in May, 1904, observers have found the organism in such sites as the deeper layers of the primary sore, in fluid from syphilitic inguinal glands, in the spleen of a child who died of congenital syphilis, in secondary mucous patches and cutaneous papules, and in the fluid of syphilitic pemphigus. Another important fact is that Metschnikoff inoculated an ape with syphilis and found the *spirochæte pallida* in the resulting primary lesion. If, therefore, as seems likely, this organism be established as the specific pathological factor in syphilis, an important microscopical test will thereby be placed in the hands of the medical profession. It need hardly be remarked that the *spirochæte pallida* is not a fission fungus, but an animal microparasite of the flagellate order. It is difficult to stain. Schaudinn and Hoffman use Siemsa's eosin-azure solution. An oil immersion lens and a magnificature of 800 diameters in its examination.

In concluding this brief survey it may be remarked as a hopeful sign that many of the advanced methods under notice have been introduced within comparatively recent years. The student of a generation ago knew nothing of intramuscular and intravenous injections in the treatment of syphilis. Nay, more than that, the student of twelve months ago knew nothing of the *spirochæte pallida*. Will another generation have heard the last word that is to be spoken of syphilis?

Kindly forward your valuable journal, the MEDICAL BRIEF, to my new address for next year.—T. A. CHURCH, M. D., San Francisco, Cal.

[Written for the MEDICAL BRIEF.]

Asthma and Its Treatment.

BY DAVID GORDON, M. A., M. D.,
Paris.

Having for many years been a sufferer from spasmodic asthma and having in consequence been compelled to abandon the active pusuit of my profession and to become a wanderer on the face of the globe seeking for relief in various climates, I naturally take an interest in all that appertains to this weird complaint and especially in its treatment. Paroxysmal asthma, as Dr. Hyde Salter, himself a victim of the disease, many years ago pointed out, is one of the direst suffering. The horrors of the asthmatic paroxysm far exceed any acute bodily pain; the sense of impending suffocation, the agonizing struggle for breath, are so terrible, that they cannot be witnessed without sharing in the victim's distress. With a face expressive of intense anxiety, unable to move, speak, or even make signs, the chest distended and fixed, the head thrown back between the elevated shoulders, the muscles of respiration rigid and tightened like cords, tugging and straining for every breath, the surface pallid and livid, by turns cold and sweating—such are the signs by which this dreadful paroxysm manifests itself. Even in the intervals of health the asthmatic's sufferings do not cease; he seems well, he goes about like his fellows and among them, but he knows that he is altogether different from them; he bears about his disease within him wherever he goes; he is not certain of a day's, perhaps not of an hour's, health; he only knows that a certain percentage of his future life must be dedicated to suffering; he can not make an engagement except with a proviso, and from many of the occupations of life he is cut off; the recreations, the enjoyments, the indulgences of others are not for him. His usefulness is crippled, his life is marred; and if he knows anything of the nature of his complaint, he knows that his sufferings may terminate in a closing scene worse only than the present.

There have been many theories respecting the causation of asthma, theories associated with the classic name of Laennec, Walshe, Todd, Budd, Gairdner, and many others, but neither with these nor with its supposed pathology am I for the moment concerned. My interest is rather with the drugs or medicinal agents which, although not curative, afford at all events temporary relief. These are many, some are of little value, but others are distinctly beneficial. First and foremost amongst them I would place fuming inhalations. Nitre papers in their various forms and modifications are so well known as to call for but little comment. The compound lobelia powder so commonly used is made as follows:

℞ Nitrate of Potassium.....2 ounces.
Boiling Distilled Water.....2 ounces.

Dissolve and add to it—

℞ Lobelia in Powder.....2 ounces.
Stramonium Leaves in Powder.....2 ounces.
Black Tea in Powder.....2 ounces.
M. Sig.: Mix well and dry.

The following formulæ for fuming inhalations are from Dr. Murrell's work on chronic bronchitis:

(1) Powdered nitre, an ounce; powdered anise fruit, one ounce; and powdered stramonium leaves, two ounces.

(2) Powdered nitre, one ounce and a half; powdered anise fruit, one ounce; powdered stramonium leaves, two ounces; powdered sumbul root, one ounce.

(3) Powdered nitre, one and a half ounce; powdered anise fruit, one ounce; powdered stramonium leaves, two ounces; powdered benzoin, one ounce.

From the same source are derived these recipes for various forms of incense:

No. I.

℞ Styrax.....5 drachms.
Benzoin.....3 ounces.
Sumbul.....1 drachm.
Frankincense.....5 drachms.

No. II.

℞ Powdered Cascarilla.....1 ounce.
Powdered Myrrh.....½ ounce.
Powdered Styrax.....½ ounce.
Powdered Benzoin.....½ ounce.
Powdered Frankincense.....½ ounce.
Burgundy Pitch.....½ ounce.

No. III.

℞ Olibanum.....2 ounces.
Benzoin.....1 ounce.

I have tried them all and have derived benefit from them, although they are not invariably successful in relieving the spasm.

Another valuable remedy for smoking is stramonium. The smoking of datura as a remedy for asthma was introduced

in 1802, from India, by General Gent, and soon obtained the reputation of being specific and infallible—everybody with any shortness of breathing was smoking stramonium. Its use, however, has illustrated the general inapplicability of any one remedy to all cases of a disease, and the special caprice of asthma; time has shaken it into its proper place, and assigned it its true worth—that its original reputation greatly exaggerated its merits, but that it has undoubted though very unequal value, and will probably always maintain its place amongst the real remedies of asthma. Stramonium cigarettes, made from the leaves of the common thorn apple (*Datura Stramonium*), are frequently smoked with advantage. A special preparation, known as *Datura Tatula*, is still more efficacious. Whether it is a distinct species, or simply the Datura Stramonium cultivated with care and grown under favorable circumstances, I do not know. At all events it answers well in relieving dyspnea, and patients frequently tell me that they smoke a pipe of it before going to bed and the first thing in the morning with advantage. People who live in the country should cultivate their own stramonium, which will grow on any dungheap.

For those who are not habitual smokers tobacco is a useful remedy. Most people, however—women included—are nowadays so accustomed to the use of the weed that tolerance has long since been established, and it is comparatively little used as an anti-spasmodic. For women who have never smoked a good Turkish cigarette immediately after breakfast or on retiring to rest, it is often useful, facilitating expectoration and lessening dyspnea.

Of remedies given internally in contradistinction to those which are inhaled I place the greatest reliance in the following order on (1) iodide of potassium, (2) apomorphine, (3) pure terebene, and (4) tar.

Another excellent remedy is cheken, chekan or chequen—for it is known by all three names—is an evergreen shrub, closely resembling the common myrtle. It grows abundantly in the central provinces of Chili. It is usually said to belong to the genus Eugenia, but by some it is referred to the closely-allied genus Myrtus. The natural order myrtaceæ contains many medicinal plants, as, for example, the clove (*caryophyllus aromaticus*), cajeput (*melaleuca minor*), pimento (*Eugenia pimenta*), and the members of the eucalyptus tribe. A good description of cheken, by Mr. Holmes, will be found in the *Pharmaceutical Journal* for February, 1879.

It is absolutely necessary to pay the greatest attention to dietary, and the following rules for the dietetic treatment of asthmatics, modified from those drawn up by a well known authority, meet with my unqualified approval:

1. The tendency of food to produce asthma is greatly increased by the state of sleep; so that nothing should be taken after such time as digestion and absorption may be completed in the stomach and small intestines before bed time.

2. This long fast before sleep involves a long period of inanition; so that the asthmatic should break his fast early and heartily.

3. The quantity of food the asthmatic takes should be small; therefore it should be highly nutritious.

4. As a rule, the tendency of food to produce asthma is in direct proportion to its general indigestibility; consequently the asthmatic's diet should be of the simplest and plainest kind.

5. There are some articles of diet that have a special tendency to produce asthma; from these the asthmatic should exercise the strictest abstention.

These are plain, practical rules which I have followed for many years of my life, and I trust that their observance will prove useful to others.

[Written for the MEDICAL BRIEF.]

The Medical Teaching of London and Paris.

BY E. LUCAS HUGHES, M. R. C. S. (ENGLAND), L. R. C. P. (LONDON).

Liverpool, England.

PART II PARIS.

Before giving my experience of the hospitals of Paris I should like to say a few additional words regarding the teaching in London. The hospital physicians and surgeons are not above giving interesting

stories which excellently illustrate matters of every-day practice, especially such as relate to their experience in private practice. They have sufficient modesty and good sense to acknowledge the lessons they have learnt in the past by their own mistakes, as well as by those of others. This is an excellent method of teaching. The mistakes and accidents that occur and are made in practice are always of great interest and profit to those who are learning to avoid such casualties. There is no greater authority on diseases of the cornea than Mr. Herbert Spicer, of St. Bartholomew's and Moorfield's Hospitals, and when I heard him lecture on corneal disease at Moorfield's he related an incident that occurred in his practice where a wrong diagnosis had been made, with a very disastrous result; the lesson to be learnt from it being that we must not always jump to the conclusion that every newborn infant with an inflamed eye is suffering from ophthalmia neonatorum. The story is as follows: The wife of a medical man had a prolonged labor, the brow and with it one of the eyes being especially subjected to pressure for a long time against the hard, osseous parts. If the lady had only been attended by an ignorant midwife who had never heard of ophthalmia neonatorum, the swollen eye which resulted would probably have been attributed to its real cause, but the infant suffered from too many doctors. A friend who was a hospital surgeon was called in, who immediately concluded it to be a case of ophthalmia neonatorum, and nitrate of silver drops were assiduously applied every four hours (2% sol.).

The child never had much discharge from the eye, certainly nothing of a mucopurulent character, and this fact ought to have been enough to contraindicate such treatment, but it was continued until the cornea became quite white in appearance, the epithelium sloughing away, and then Mr. Spicer was asked to see the child. Careful inquiries elicited the real facts which were not at first forthcoming, as the father desired to shelter his friend, the surgeon; the silver drops were stopped, but it was too late. The child grew up with a whitish opacity of the cornea, and very little sight on that side, all of which might have been prevented had a right diagnosis been made, and the eye treated with a little warm hazeline or boric acid lotion, or even left to nature. Another story is that of a medical man who had the misfortune to mistake a small bottle of some strong acid for cocaine solution, and was terribly alarmed and distressed to find his supposed cocaine give rise to excruciating pain and the patient's cornea became a dead white color (eye drops ought always to be kept in special bottles, of which there are a great variety of shapes). He rushed around with his patient to Mr. Spicer; the acid of course had been neutralized by bathing with some weak alkaline lotion; warm sedative and week alkaline lotion was recommended and the patient watched. This case ended in a much happier way than the other. It is wonderful what the cornea will stand so long as Bowman's membrane is uninjured. The dead epithelium protected this membrane underneath and the patient made a complete recovery, new epithelium growing in the place of the old, the cornea becoming again perfectly clear. It was a very fortunate thing the harm of this accident was only of a temporary nature. If Bowman's membrane had been injured by the acid the eye would probably have been lost. Casualties, etc., of this kind are exceedingly profitable to be trotted out in the teaching of medical students.

Now, as regards Paris. The chief hospital is the Hotel Dieu, which is nursed by the Sisters of Notre Dame. It has an excellent staff of physicians and surgeons, and is the hospital most closely related to the Ecole de Medicine and the University of Paris. I personally attended the cliniques of Professors Dieulafoy and DeLapersonne, the latter for the eyes in what is known as the Clinique Panas. The system of teaching is much the same as that in London; a student is officially appointed to examine cases; he has to find out all he can about a given case, with the assistance, of course, of his seniors, and at the physician's visit he presents his case, which is further examined and made, perhaps, the subject of a clinical lecture. I noticed that, at least in the male wards, the binaural stethoscope was conspicuous by its absence, also that immediate auscultation was nearly always employed;

nothing but a towel being between the ear of the examiner and the patient's body. Professor Dieulafoy's teaching is most excellent. I was especially struck with the thoroughness of it and his clear, instructive reasoning; nothing escaped him. Take, for instance, a patient he examined for the morphia habit. The man had been taking the drug for a considerable time, and had reached to fifty centigrams in the twenty-four hours. The Doctor asked where he obtained the morphia; whether it was purchased from one or more of the chemists, or how obtained. No, it was given to him by a friend. What did he pay the friend for it? Oh, the friend gave it to him without any payment at all; gave it to him for nothing. The clear induction, therefore, was that the man's friend also was a morphiamaniac, and further, that special care must be taken during the treatment to protect the patient from this "friend." The treatment consisted in getting the patient to solemnly promise not to take any morphia except what was given to him in his treatment; to keep away friends, etc., especially the other morphiamaniac. If patient kept faith and fulfilled his part of the contract, the Doctor would promise on his part to cure him in a month. Beginning with thirty centigrammes, the dose is diminished a centigramme each day, so that by the thirtieth day the patient is having pure water instead of the drug without perceiving the difference, and is, in fact, cured.

With regard to the ophthalmic practice and teaching in the Clinique Panas (Hotel Dieu), the system of Professor De Lapersonne is essentially the same as that in the general medical wards. One of his assistants first of all examines a patient, thoroughly going through the case, and then the patient is brought to the Professor, the students all sitting around him in a circle; he takes each one in turn; hears what the first examiner has to say; further examines if necessary, and then teaches and demonstrates upon the material in hand, and finishes the case for the day by prescribing. On certain days care is taken that a number of cases of special interest, specially instructive, should be brought forward, the others being dealt with summarily by assistants. This gives an opportunity for really good clinical teaching. Picked cases in this way can be lectured upon one after the other; questions asked, etc., and a very profitable morning spent. There are Argand gas burners for the ophthalmoscopic examinations, and the lamps stand upon little tables, very inconvenient for the foreign student, who is accustomed to the excellent electric medical brackets made by Curry & Paxton, and others, in the English hospitals.

Direct ophthalmoscopy is very little resorted to; the student is nearly always required to make his diagnosis from the appearance of the fundus seen by the indirect method. Refraction cases are determined by means of Parent's or Antonelli's skiascopic racks, no mydriatic being used, and the ophthalmometer of Javal is always used to determine the corneal astigmatism. Every one of the cliniques I visited had a Javal in constant use. The other ophthalmic cliniques that I have visited are those of Quinze-Vingts, Lariboisière (Morax), the New Eye Hospital of Rothechilds, and the Clinique of Galowzowski.

Lariboisière is a large general hospital close to the Gard du Nord, in the Rue l'Amboise Paré. It is one of the hospitals under the "Administration de l'Assistance Publique." Having written beforehand to the Secretary of this organization, I was officially appointed, so to speak, "élève bénévole," for the three months to Professor Morax, who received me most courteously, gave me a blouse to wear and set me to work. All the actual workers are supposed to wear these blouses in Paris. You would be mistaken for a working man if you put on such a garment in London. They consist, of course, of linen which can be washed, and are a great protection to the clothes. The nearest approach that I saw in London were the little white jackets worn by the staff and their assistants at Moorfield's and other hospitals. At Lariboisière the patients are first examined by the assistants, and then seen by Morax, who generally superintends all the work done. He operates twice a week—on Wednesdays and Saturdays. There are one or two little points in which the French operating in ophthalmic surgery differs from that of the English school. For instance, in cat-

aract, instead of taking hold of the conjunctiva with the fixation forceps below the cornea, the conjunctiva is firmly held on the side opposite to that where the Græfe knife is inverted to make the incision. This certainly gives a firmer hold. Then a seesawing motion is avoided in the incision, the knife cutting directly outward and turned upwards as soon as a small amount of conjunctiva enters into the flap. The reason why the French surgeons avoid a seesawing motion is because they do not get an escape of aqueous so readily with the direct cutting movement, and the iris is not so likely to be disturbed. I noticed that Morax frequently removes the capsule, taking away the whole of the anterior part with capsular forceps, a method of dealing with the capsule also resorted to at Moorfield's by Teacher Collins. The system of asepsis is perfect at Lariboisière. The sterilization of both instruments and dressing is that of the dry method. We may call it "baking" the instruments, etc., instead of boiling them. They are in metal boxes placed in the dry sterilizator, and submitted to dry heat for some time, then, when cool, they are withdrawn, laid upon a piece of dry antiseptic gauze ready for use, or simply taken out of the aseptic metal box as they are wanted. The dry method of sterilization has certainly many advantages over the moist. Time is saved by it, instruments are not so soon spoilt, knives do not blunt, etc., and there is no doubt that the asepsis is more thorough. There are electric lights for ophthalmoscopic examination at Lariboisière, but they stand on sort of shelves instead of brackets, and are, therefore, not so easily manipulated. There is one very excellent point constantly insisted upon by Morax and other French surgeons, and that is to pay great attention to the nose and condition of nasal duct, etc., in dealing with eye cases. Very often an inflamed eye continues to obstinately withstand all treatment directed to the eye itself because a diseased condition of the nose, throat, mouth, etc., has been overlooked. Often an ointment of menthol, lanolin and vaseline is prescribed for a catarrhal condition of the nares at the same time as the eyes are treated with yellow oxide ointment, etc., two ointments, the white for the nose, the yellow for the eyes. I noticed that the favorite mercurial lotion is not the corrosive sublimate as in London and Liverpool—a lotion I have used almost daily for six years—but the cyanide of mercury lotion. This is an amber yellow in color, it does not injure the instruments as the sublimate does, and on the whole is not so irritating. It makes a very efficient antiseptic lotion for general ophthalmic purposes, and is used in the strengths of 0.5 centigrammes to 1,000 grammes, and weaker even than this sometimes, according to circumstances.

Paris is a city of hotels and restaurants; a student can get a room in the Latin quarter for from sixty to seventy francs a month. If he is not well off and prepared to rough it, he can dine at a restaurant for two francs, or even cheaper, whilst by taking a number of tickets he can limit his actual living expenses to about ten pounds a month. But this has some serious disadvantages; the room is small and uncomfortable, the "vin ordinaire" may be good or very bad, and Americans who prefer to live well and do the thing in style will find in Paris the very best hotels and restaurants in the world. It would be impossible to enumerate all the excellent ones, not to speak of those second-class ones which are more suitable where means and ways have to be considered. There are a number of restaurants called bouillons where you can get an excellent meal. Conspicuous amongst these are those of the "Etablissement Duval." There are other ways of living in Paris besides having a room or suite of rooms in a hotel; you may take one or more rooms in a "maison meublie," or you may take a small flat if you are more than one in number.

The Hospice de Quinze-Vingts is the principal ophthalmic hospital of Paris under state management. It is situated quite close to the Place de la Bastille, the entrance to the cliniques being in the Rue Moreau. The cliniques are those of Trousseau, Chevalerreau, Kalt and Valude, who in turns give a clinical lecture, termed "conference," every Tuesday at 1:30 P. M. throughout the winter months. These lectures are very practical. Kalt gave a course upon the "Operations of Urgency in Eye Practice" when I was

there, and Chevalerreau took as the subject of several lectures "Ocular Therapeutics." The hospital has the disadvantage of being old; there are the same awkward lamps on tables for the ophthalmoscopic work as there are in the Clinique Panas, at Hotel Dieu, and at other places, all of which make it difficult for a foreigner.

The Rothechild's Ophthalmic Hospital is near the Buttes Chaumont. It is thoroughly up to date in every respect, beautifully fitted up and having every advantage for good work. The only disadvantage is the fact that it is rather far from the central part of the city. There are many patients, but very few students go there, as it is too far away for them. A friend of mine studied bacteriology there, and found it the best place of all for his special study.

It was very interesting to attend Landolt's Clinique and see him operate. I did not see him do any advancements; the operations I saw him do were those of cataract. Landolt is very particular in arranging his dressings so that no pressure should be brought to bear upon the eye after a cataract extraction; he uses a metallic gauze protector, well padded, something like that used by Fuchs, but the ones I saw used at Vienna appeared to me to be less clumsy looking. However Landolt's great point is his muscle work. He showed me an arrangement for determining the defective muscle sense in cases of paralysis of ocular muscles. It consisted of a blackboard which had a white horizontal line immediately above another board which hung down like the flap of a table; there was also a vertical line at right angles in center of the board, opposite to which was a place for patient's chin when the flap was lifted up. Patient had to quickly touch vertical line below the flap while looking at the part of the line above the flap; the flap of course prevented him seeing where his hand went, the other hand was held firmly to the side and the eye not being tested was covered over. In this way homogenous and crossed diplopia could be accurately determined, etc. The horizontal line on each side of the vertical was marked by a scale according to the angular deviation.

I found Galowzowski's clinique exceedingly good for ophthalmoscopic work, quite the best in Paris. It is situated in the Rue Dauphin, near that of Landolt's, which is in the Rue André des Arts, both of them in the Latin Quarter. Abadie's clinique is also very good, I believe, but I was unable to visit that one. These clinics are private charities; they have the great disadvantages (at least Galowzowski's had, and I think also the others) of the patients being obliged to go to their homes like out patients, no accommodation for beds, as there is at a hospital. The operations are done on certain days, and then the patient simply walks home or is taken home by his friends, even after an anesthetic has been given. He is told that he must not walk about the boulevards nor go to the cafés or the theaters. This is very bad. A patient should remain in bed, especially after a cataract operation, for rest is imperative, and it is not wise to trust too much to the most skilfully applied dressing. However, M. Galowzowski and the others get excellent results, and the amount of work done would necessitate large hospitals and hundreds of beds; perhaps ten or even twenty cataract operations might be done a week at one of these cliniques. Both eyes are generally bandaged and the patient comes back the following day or the day after that for the bandage to be removed and the eye looked at. If everything is doing well the sound eye may be liberated. The Golowzowskis consist of father and son. The father visits his clinique twice or three times a week, the son is there every day; they are both excellent teachers, but the son does much more in the way of teaching than the father. He is most amiable and painstaking and does everything in his power to help all who come to the clinique. There is the same excellent system that seems to be generally in vogue on the continent of giving the student a case to thoroughly investigate, then after he has reported all that he can find, going through the case and pointing what he has failed to notice.

This seems to me to be the only sound and rational basis of good clinical teaching. To merely give a lecture, or even a clinical demonstration, is not nearly so

good. Of course where there are large numbers of students individual teaching becomes almost an impossibility, but senior students of a medical school and post-graduate men who are working for a specialty should, in my opinion, be given as much individual teaching as possible. To turn a student adrift in the wards or the out-patient department of a hospital without help and guidance is like throwing a novice into the water and expecting him to swim. As to books, there is often a grain of wheat in pages of chaff, a few valuable facts in between much that is mere padding. The student has to learn what is the padding and what are the valuable facts. During his curriculum before he qualifies his chief anxiety is to pass his examinations. After he has passed, if he is the right sort of man, his one anxiety should be to really learn his profession. If he takes up a speciality he ought to travel and study in London, Edinborough, and if he knows German and French, in Berlin and Paris. Vienna is also an exceedingly good city for medical teachings, and has the great advantage over Paris, Berlin and other cities on the continent in having practical classes given by the Professors and their chief assistants in English.

On the continent, both at Paris and Vienna, and also, I believe, in some of the other centers, great stress is laid upon the treatment of squint, heterophoria, etc., by ocular exercises. In England it is not so much thought of. An excellent instrument, called the diploscope, invented by Dr. Remy, is used for these muscle exercises in nearly all the Paris cliniques. Javal published, in 1896, his excellent little book on Strabismus, much of which was dictated from memory of his clinical experience to an amanuensis after Dr. Javal himself became blind. He was the victim of double chronic glaucoma. Since then a good deal of work has been done by Parinaud, Worth, Remy and others, but as a matter of fact the treatment of squint is still in its infancy. The diploscope of Remy's claims to be much more than a stereoscope can be; it is natural binocular vision that is aimed at in the use of the instrument, the fusion of two retinal images, not the seeing of two pictures superimposed on one another as if they were one, as is the case with a stereoscope. I paid a visit to the Sorbonne in Paris and saw the great Professor Tcherning at work. He received me with great kindness and I spent several pleasant and profitable hours in his laboratory. He showed me an instrument for measuring the Xalline lens, also a new instrument for accurately gauging color blindness or even imperfect appreciation of color by means of the colors of the spectrum, these having the advantage of being pure color rays. A prism is fixed in an instrument like a microscope in appearance, and by turning a screw all the spectrum colors of this prism are seen in turns. There is no being deceived by tone, it is a pure color test. The instrument for measuring the Xalline lens was something like the Javal-Schlotz ophthalmometer, but instead of the reflection of mires on the surface of the cornea Purkinji's images are seen and the distance between them accurately measured.

So far as learning how to operate is concerned Vienna is, in my opinion, better than either London or Paris. It is true that a man gets many opportunities of watching operations closely, especially in Paris, but at Vienna the operation courses given by the different teachers in the cliniques of Professors Schnabel and Fuchs are in advance of anything I have found anywhere. Vienna is not so good as Paris for general medicine and some of the other specialties, such as skin. I believe nothing beats the St. Louis Hospital in Paris for skin work, but for the eye, ear, nose and throat Vienna is better; there is much more actual teaching. In some of these large crowded hospitals there seems such an anxiety to get through all the work that the opportunities for teaching is sometimes neglected. In Vienna the teaching is systematically done. A man pays for his courses and each course consists of so many patients he has to examine, and then the Professor or teacher goes over each case. As regards operation, he has to do them on the dead body and not on pig's eyes, which are not really such good practice.

I am lost without the BRIEF. Send it on.—H. B. AKINS, M. D., Onyx, Ark.

[Written for the MEDICAL BRIEF.]

Treatment of Prolapse of the Rectum.

BY E. H. THRAILKILL, M. D.,
Professor of Rectal Surgery, Kansas University; Rectal Surgeon to St. Joseph Hospital; Proprietor and Surgeon of Dr. E. H. Thrailkill Sanatorium for Rectal Diseases.
Kansas City, Mo.

In 1889, I saw for the first time, in the practice of Dr. Griffiths, a case of severe prolapse of the rectum, where the patient wore a device of his own construction to retain the prolapse in position.

This apparatus consisted simply of a stick, about six inches in length, to the ends of which were attached two small leather straps, those in turn being fastened to his trousers' suspender buttons. This device he had worn for many years. When, eventually, he presented himself for treatment, Dr. Griffith operated for the prolapse with marked success.

Prior to that time I had never seen such apparatus worn by a patient, and it was not until two years ago that I saw a similar case. This patient (referred to me by Dr. R. T. Sloan), like the one observed seventeen years before, wore constantly a small apparatus of his own invention and construction, and which closely resembled the one described above. A stick, six inches long, with an aperture through the center, through which passed two elastic bands, fastening to the trousers' suspender buttons in front and behind. On account of the great size of the prolapse he had worn this stick for about fourteen years and was absolutely helpless without it.

The patient was fifty-nine years old, a farmer by occupation, was suffering from Bright's disease, and had a mitral regurgitation. I decided to operate. On account of the heart lesion and the Bright's disease, general anesthesia was out of the question. A four per cent solution of cocaine was used locally. The operation was a perfect success.

This operation has always proved so successful in my hands, even in the most unpromising cases, and as it differs somewhat from the procedures usually described in the text-books, a few words of explanation may be of interest to those who operate in this class of cases.

One of the chief points of difference is the fact that I remove the prolapse in four sections. I begin by drawing down the bowel and attaching a clamp, similar to the clamp used in external hemorrhoids. The prolapse is removed in four pieces, one anteriorly, one piece posteriorly, and one on either side. I then introduce a Sim's speculum and make a linear cauterization, burning upward about two inches, which will reach the anal margin —a cauterization is also made into the sphincter in four or five places. This will cause a narrowing of the lumen, and also form a fibrous ring around the anal margin.

This procedure, however, is only applicable in cases where the peritoneum is not involved in the prolapse.

I keep my patients in bed for about eight days. A dressing similar to that used in hemorrhoids is used, iodoform gauze, and a T bandage, with considerable pressure over the anus.

The bowels must be confined for about a week after operation; the patient remaining in bed and using the bedpan for three or four days after the bowels are allowed to move. In lieu of the T bandage the straps recommended by Seneca Powell, of New York, may be applied.

This operation can be successfully done under local anesthesia. And because of this, the danger of shock is minimized, and there is practically no danger from hemorrhage or sepsis. I have done this operation many times with admirable results, and I believe that the majority of cases of prolapse can be treated in this way.

Rialto Building.

[Written for the MEDICAL BRIEF.]

Some Clinical Notes on Obstetrics.

BY ARTHUR J. BOYD, M. D.
Professor of Obstetrics Kentucky School of Medicine.
Louisville, Ky.

The following cases which have come under my notice are, I think, sufficiently interesting to warrant my report of them.

1. Mrs. H., white, aged twenty-two, primipara, seen in consultation with Dr. W., who informed me that the woman had an inversion of the uterus. Patient had been in labor twenty-four hours. I found her in fairly good condition. Labor

pains were regular, lasting from one-half to one minute and occurring every five to ten minutes.

Digital examination revealed a bulging in the vagina very pronounced after pain. Close inspection revealed the fact that the woman had what is known and termed imperforate hymen. That term, however, is a misnomer for the reason that the woman had menstruated, supposedly normally, and pregnancy had supervened. The membrane was much thickened, the child's head could be felt against the membrane; introducing sound in the urethra, finger in the rectum, getting the landmarks, an incision was made in the membrane, which was enlarged, amniotic sac protruded, that is to say, ruptured; fluid escaped. The head came down normally, forceps were applied, and a normal healthy male child, full term, was delivered. I saw the patient two months after delivery and found membranes had again closed at the vaginal opening and a surgical operation was performed, cutting out the membrane, a glass tamponade was introduced to prevent contraction. Recovery was uneventful and the patient has since been delivered of a child.

Case 2.—Mrs. C., aged twenty-eight, multipara, seen with Dr. R. She had been delivered of a child about ten a. m. in the morning, the delivery being normal. The doctor failed to deliver the placenta, *post-partum* hemorrhage supervened and I was called; found the placenta in the vagina. Introducing hand, I attempted gently to remove it, without success. On introducing hand into the uterus I found a second placenta attached to the lower uterine zone. By manual expression of the uterus the placenta was separated from the walls and delivered. A diagnosis was made of placenta previa, with the placenta having two separate, distinct lobes, which were inserted on each side of the uterus, the membrane cut in two, and blood vessels coming from each united to form the cord.

The patient prior to my arrival was exsanguinated, pulseless and lifeless, subcutaneous injection of saline solution was made, the patient rallied and is in good health at present.

Case 3.—Mrs. B., aged thirty-nine, multipara, engaged a midwife; after having been in labor for some hours there was no descent of the head. The midwife caught her about the waist, and pulled the patient toward her, when suddenly the pains ceased.

I was called by a physician in consultation. On examination I found the uterus empty, contracted, down, and a rent extending about midway the uterus, posteriorly down to and including the vagina. Passing the hand up into the abdominal cavity I found the child and placenta free. There was little or no hemorrhage, not much shock. The patient was prepared for operation, anesthesia administered and celiotomy performed. A dead child, hydrocephalic, with placenta and blood clots removed; the rent was repaired, abdomen flushed, followed with normal saline solution. Abdomen closed, recovery uninterrupted. Patient has since been delivered of a child; parturition normal.

503 West Chestnut Street.

[Written for the MEDICAL BRIEF.]

Corneal Staphyloma and Its Conservative Treatment in the Young.

BY G. S. ROW, M. D.,

Professor of Diseases of the Eye in the Central College of Physicians and Surgeons. Indianapolis, Ind.

Corneal staphyloma is an outward bulging of the corneal scar with adherent iris. It is not confined to any particular time of life, but, owing to the greater frequency of predisposing conditions, it is more commonly seen in the very young. The lesion is brought about by intra-ocular pressure acting on tissue that has been weakened by disease.

Staphyloma may be conical or spherical in shape; a part or all of the cornea may be concerned, and the ciliary zone may also be involved. The growth of staphyloma may be arrested when it reaches a certain stage, and remain stationary, or it may continue to extend until its walls are so thin that rupture results. The rupture soon closes, but to reopen when tension rises, or rupture may occur at another point. Infection, however, may

take place through the opening and the eye be destroyed by general suppurative inflammation.

The early symptoms of staphyloma are pain, photophobia, redness and lachrymation. Later on these symptoms subside, but the protruding mass remains. The protrusion becomes so large at times that the eyelids can not be closed over it. The tendency of the staphyloma is to increase in size, and finally the entire globe may be enlarged.

Staphyloma should always be regarded as a serious condition, and its prevention is of greater importance than its treatment. The prevention concerns the proper treatment of the iris prolapse, and to secure a flat scar is of the utmost importance. Means should then be employed to prevent bulging of the scar, such as myotics, compresses, bandages and attention to the general health.

Ophthalmia neonatorum more than anything else is the predisposing cause of this deformity. When it is considered that this is a preventable, and, in the new-born, curable disease, and yet see how they are crowding our public institutions for the blind, with the blight of this disease forever stamped upon them, we can not but think there is something wrong with medical education, or with the laws, or their enforcement, regulating medical practice. The treatment, therefore, first and foremost, should be preventive. But when the deformity is present we should direct our attention to its amelioration. Enucleation of the eye is the easiest and most effective way of relieving the individual of an ever-present menace to comfort; but in the young and growing child, for developmental reasons, every effort should be made to preserve the globe intact. The effect of enucleation upon the muscles in and about the orbit is very marked, and any interference with this development gives that side of the face a shrunken appearance.

It is surprising what may be accomplished in apparently hopeless conditions of this kind. A case in point: A five months' old child was brought to my clinic at the Central College of Physicians and Surgeons, with the following history: On the third day after birth the eyes became inflamed and the inflammation increased rapidly with swelling of the eyelids and free discharge of pus, and all symptoms of gonorrheal ophthalmia.

When the inflammation abated the eyes were sightless. There had been ulceration of both cornea with perforation; the process was more extensive in the right eye than in the left. The corneal scar of right eye very soon commenced to yield to intraocular pressure, when at the time of first visit to me the protrusion was so great that the lids would not close over it. I proceeded to abscise the protrusion under cocaine anesthesia splitting the growth horizontally and removing each half separately with forceps and scissors. Just as I had completed the removal of the second half of the growth, there was a gush of liquid, and complete collapse of the ball. Without attempting to close the opening, as was my original intention, I had the eye dressed and firmly bandaged. The first dressing was removed on the third day, and, to my gratification and surprise, the eye was full and round, without the least evidence of inflammatory reaction. A compress bandage was continued for a week or more, and all of the conditions point to a most favorable outcome.

401 North Pennsylvania Street.

[Written for the MEDICAL BRIEF.]

Infant Feeding.

BY E. W. MITCHELL, M. D.,

Professor Pediatrics, Miami Medical College; Physician to the Cincinnati Hospital, Etc. Cincinnati, Ohio.

Anyone who has followed the enormous amount of work done in the study of infant feeding during the past twenty years must acknowledge that very great progress has been made in the successful substitute feeding of infants, but with all our progress in this direction we recognize more perfectly than ever before that there is no perfect substitute for the mother's milk. It is true we can combine substitutes which chemically will exactly correspond with the chemical composition of human milk, but we must remember that an infant's stomach is not a test tube, and that however perfectly the combination may approach in its chemical

constitution the mother's milk, it may be entirely unfit to properly nourish a child.

The advances in physiological chemistry have shown us that there are certain vital elements in the milk which are equally as important as the chemical constituents. Dr. Chapin and others have recently drawn attention to the physiological relationships of the lacteal secretion to the type of stomach which the animal possesses. For example, the milk of the cow with its firm curds requires considerable time to be broken down and digested, and is especially adapted for the stomach of the calf, while the human stomach, at birth, has adapted to it the soft fine curd precipitated by the gastric secretion from the human milk. A study of the subject of immunity has revealed another reason why no other substance can entirely supply the place of mother's milk, carrying, as it does, those immunizing principles which the mother supplies in her own blood.

Unfortunately there is an increasing number of mothers who are not able to nurse their infants, and the necessity of artificial feeding becomes more and more frequent. In our own country the difficulty of finding wet nurses is so great that we are not often able to supply the place of mother's milk by the milk of another woman. For premature infants, and those especially feeble or delicate, a wet nurse should be secured if possible, since the chances of saving the lives of such infants by any other food than mother's milk, are extremely small. However, for children well developed with fairly good digestive powers, it is not necessary to find a foster mother. They can be successfully fed upon cow's milk. I will not here enter into an argument against the use of the so-called prepared foods. There are times when some of these foods may be used with advantage, but, as a rule, they are injurious, and should only be used under the direction of the physician who recognizes the principles upon which they are employed. For example, if the child has passed its fourth or fifth month, he has acquired the power of digesting a limited amount of starch, so that some of the preparations which have a certain proportion of unchanged starch may be added to cow's milk for the purpose of making the curd more digestible and add an additional proportion of carbo-hydrate material to the food. I am well aware that many of the foremost teachers condemn such addition to the food at so early an age, but I have so often seen good results from the careful use of starch preparations in limited quantities, that I quite agree with the teachings of Dr. Jacobi upon this subject. As a rule I do not in my practice use the prepared foods when I wish to make a starch addition, but they are sometimes convenient for use, and there are some in which the starch is so completely converted that they are useful additions to the cow's milk, particularly toward the close of the first year. As to condensed milk as a regular food for infants it is to be condemned, but it may often serve a temporary purpose better than any other article, but only temporary, and under the direction of the physician who recognizes why and how he uses it.

With these few exceptions we may accept it as established that the best practical substitute for the mother's milk is the milk of the cow. Our studies in infant feeding have established a few positive principles:

1. The milk should be from healthy animals.
2. The milk should be kept clean from the cow to the infant.
3. It should reach the infant in the shortest possible time.
4. It should be modified so as to approximate in its proportion the composition of the mother's milk.
5. It must be so modified as to adapt its ingredients to the digestion of the individual child.

Since the proteid and fat of the cow's milk are more difficult of digestion than those of human milk their proportions must be made less than the proportion of the same in human milk.

The feeding of each infant is an experiment, and it is only by experiment that we can positively decide its digestive capacity, so that the successful feeding of the infant will depend a great deal upon the careful observation and the skill of the attendant in adapting the food to the infant. Fortunately the average infant has pretty good powers of digestion, and

will thrive upon a mixture which is not theoretically correct. This is not, however, any excuse for our not making our mixtures as nearly correct as possible.

Percentage feeding is not especially difficult nor complicated, and gives us the exactness which no other method of feeding can give. A few simple formulæ committed to memory and a few of the more complicated carried in the pocket are all that is necessary.

As to whether the mixture shall be made in the laboratory or at home there is a good deal of difference of opinion. In my own experience I have had better results from the home modification, notwithstanding the fact that the theoretical considerations are in favor of the laboratory preparation. The rule I follow at present is to have the modification made at home, where the mother or the nurse is intelligent and careful; where they can not be trusted I order the laboratory milk, and I have had some most excellent results from its use. In the country and in the small towns, of course, the home modification must be used, and here there is a very great advantage in the short distance from the cow to the infant.

In the feeding of very delicate or sick babies the use of whey is often of very great advantage, as is also at times the temporary use of peptonized milk. In the first few weeks of life I do not usually employ the cereal gruels as diluents, but very frequently use them after the first few weeks. When used in the earlier weeks they should be dextrinized by the addition of some reliable malt extract, and so prepared they frequently serve the most useful purpose.

2303 Reading Road.

Correction.

We wish to make the following correction in Dr. Peeples' article in June issue. Page 438, beginning third line of first paragraph, of second column, should read, "To intersperse, would suggest that it is remarkably rare in obstetrics that I am *not* compelled to resort to the use of instruments." The word "not" was omitted in the previous issue. Dr. Peeples advises that he can recall but one case where he found instruments unnecessary.

[Written for the MEDICAL BRIEF.]

Importance of Having a Knowledge of Histology.

BY M. E. BRADLEY, M. D.,

Professor of Histology and Director of Histological Laboratory in Barnes Medical College; Visiting Physician to Centenary Hospital. St. Louis, Mo

Of all sciences, subdivisions, etc., which pertain to a rational and beneficial knowledge on the part of the general practitioner of medicine, histology, or minute anatomy, is perhaps least known. How few there are of the medical profession who graduated a decade or more ago who understand how to use a microscope or the technique of preparing tissue for microscopic study. Yet we find very few preceptors who do not start their students in the study of anatomy and insist upon a continual study of gross anatomy through the whole course, and even after graduation.

In everything we must have a unit; as the cell is the unit of histology, so is histology the unit of anatomy. To be a good anatomist, physiologist, bacteriologist or pathologist, we must have a pretty good general knowledge of histology. A knowledge of histology aids greatly in diagnosis. If we know a normal tissue or organ we can at once recognize an abnormality when it is present. In local medicine this knowledge is equally important. In extrauterine pregnancies much light, if not a positive diagnosis, can be made by a microscopical examination of the uterine discharges or membrane. If we find decidual cells with amnion and chorion present we can safely diagnose pregnancy.

Again, histology gives us a much clearer understanding of the organs of the body and their functions. By dissection we find that most of the great systems of the body are large tubes, as for example, the respiratory, digestive, genital, urinary and vascular. These large tubes, or systems, are found to contain many small ones. The small tubes are joined together in various ways by connective tissue, and form organs. Thus the respiratory system is composed of a large tube, the trachea, which divides and subdivides into a great many small tubes

which terminate in the alveoli of the lungs.

The digestive system is composed of a large tube, the alimentary canal, the functional lining of which is arranged in simple and compound glands, which are small tubes. The vascular system is composed of a large tube, which gradually decreases in size and forms small ones.

The viscera then are for the most part aggregations of tubes, and in many instances the structure and function of one is sufficient for the whole. If we can understand the structure and function of one air cell, we can understand the structure and function of the whole lung. If we know the structure and function of one secreting or excreting gland, we know the structure and function of any of those glands taken as a whole.

Room 6, Odeon.

[Written for the MEDICAL BRIEF.]

Management of Tuberculosis.

BY A. M. CARPENTER, M. D.,

Professor of the Principles and Practice of Medicine and Vice-President of the Faculty of Barnes University, Medical Department. St. Louis, Mo.

The most important steps in the management of tuberculosis are, first: to lessen elimination, and, second, to restore the integrity of the body. The patient is eliminating constantly, by the skin, by cough through the air tubes, and he is suffering the combustion of tissue from day to day from a hot skin. There is no remedy for consumption save nutrition, fresh air and sunshine. One law of therapy must be remembered—that the blood of the patient must be alkalinized through his stomach. It is impossible to nourish a patient with an acid stomach, however much codliver oil, malt-guaiacol, creosote or spirits may be advised. If you neglect to alkalinize you are lost.

To bring about this satisfactory condition of the stomach, sweets of every kind and description must be barred from the patient's diet. If you are tempted to prescribe sweet preparations to abate cough, syrup of tolu is an anti-cough remedy which is acceptable to the stomach. In severe cough, chloroform—either chloroform water or chloroform itself—has a beneficial influence. Some preparations of hydrocyanic acid or morphine subcutaneously, or codeine in licorice, often do well, and if wild cherry is prescribed, do not give it in syrup form.

When patients can not expectorate very well, two or three grains of muriate of ammonia may be prescribed; that is one salt which is admissible, because it liquefies the material in the air tubes and cavities. In the early morning the patient endeavors to expectorate the all-night accumulation of pus and muco-pus, and not infrequently fibrous material is ejected. This, of course, should be examined under the microscope, when many of the elements found in asthma, as spirals, etc., will be discovered. In addition, you may be told by your patient that he has expectorated something which resembles chalk or plastering; these are preparations of lime spat out by the tuberculous patient. The absorption of the watery portion takes place, leaving the limy deposit behind, and is expectorated as a rough substance. You can not arrest these processes. Occasionally you will discover a little blood in the expectorated material. This need cause no alarm; it is to be expected, as hemorrhages occur early and late in tuberculosis. The strength of the patient must be conserved and he must be saved all possible annoyance. Not only the patient, but his friends, will be anxious and will want to know what causes the outflow of blood. It is only necessary to tell them that blood sometimes issue from small aneurysms, or that it comes from a branch of the bronchial artery and not from the lung structure proper. This will set his mind at rest and relieve his anxiety. If necrosis has taken place and a vessel in passing through a cavity is interfered with, the vessel will be broken down and there will be a corresponding hemorrhage. When hemorrhage is great in amount, it must be differentiated. In hematemesis, the blood is usually dark. This is due to the action of the acid in the stomach, whereby it acquires the tint which belongs to melena. To stop hemorrhage you must put your patient in a state of quietude by means of hypodermic injections of mor-

phine. Of course, there are many remedies for the arrest of hemorrhage, the chief one, perhaps, being a preparation of ergot. Astringents should not be prescribed. The pulse rate must be ascertained; the respiration and the heart action carefully noted. Instead of administering sugar of lead, opium, tannic acid or the like, the pulse should first be reduced to normal. I recall one case, a man of thirty-five, who used to summon me at all hours on account of hemorrhage. I found the pulse rate one hundred and twenty, and prescribed six drops of veratrum viride every hour until the pulse rate was reduced to seventy. Some authorities recommend a drop or two of tincture of aconite, but I like the veratrum viride much better, as it has not been my experience that it causes nausea, as some authors claim, except when pushed beyond its physiologic effect. I have used as high as twenty to thirty grains of ergotin hypodermically, but do not like aconite under the circumstances. If the heart is preternaturally wild, it can be tranquilized by sodium bromide, or ice poultices over the heart. Some authorities recommend ice poultices to mitigate hemorrhages, but I am not in favor of that practice. The late Alonzo Clark, of New York, a famous practitioner in his day, suggested the liquid persulphate of iron in ten-drop doses every two or three hours until the hemorrhage had ceased. Latterly chlorid of calcium has come into use as an hemostatic in five to ten-grain doses, and is praiseworthy. The tincture of iron will sometimes increase the hemorrhage, but the liquid persulphate will modify it. Occasionally you will find the hemorrhage is vicarious. In females it occurs in lieu of the normal discharge, but it is not necessary to attempt to restore the function until arrest of the hemorrhage occurs. I have suggested in the past that two important remedies are iron and arsenic. Of course, if the patient is oozing blood the iron may be withdrawn, but not the arsenic. Of the latter, Fowler's solution is the best preparation.

To relieve night-sweats, the oxide of zinc, in combination with henbane, has been, with me, a standard remedy for many years; given in two-grain doses of each at bed hour, and repeated. Atropia in one-hundredth-grain doses is often efficient. So will camphoric acid, two to eight grains, in warm oil under the skin, or five to ten grains in capsule, be of service. Sponging of the body with dilute alcohol and alum will be found an effective adjuvant.

Circumscribed pain is one of the features of the disease, for which strapping and iodine, locally, are useful. Exsanguinated fauces is almost always found, although there may be no disturbance of the larynx. In these cases it will be necessary to use some preparation of cocaine, otherwise the patient will be unable to perform the act of deglutition, because of the paralysis and pain that attach to the muscles. For this condition of the throat, a soothing spray must be used, such as Dobell's solution, warmed.

Alcohol is supposed to prevent tissue metamorphosis and is administered for this purpose, but I do not think a patient can survive many years of its administration, and it is a question whether the patient shall die of tuberculosis or cirrhosis of the liver. I recall one patient who had used alcohol steadily in large doses for some years, but fermentation eventually set in. Nausea followed, defied strychnine, carbolized lime water, and ended fatally. Nothing will hinder tissue metamorphosis, and destructive metabolism will go on so long as nutrition is at a minimum. The patient must be sustained by nutritive elements of the strongest character — milk, eggs, somatose, meat juice, olive oil.

Regarding the diarrhea found in tuberculous patients, I mention a case I saw in consultation some time ago: that of a woman, past middle age, who had been under constant treatment for more than three months for a diarrheal condition which threatened to end fatally. Her physician informed me that it was a case of tuberculous diarrhea and hopeless; that various remedies had been tried without avail. For three months she had had from three to six watery discharges a day, with the consequent exhaustion attendant upon this condition. I examined her tongue and found that it was dry and yellow. I advised the attending physician to stop the astringents he had been giving

and stimulate the hepatic system. The condition of her tongue indicated retained material in the liver which, if cleared out, would permit digestion to go on. I prescribed one-tenth grain of mercury and kept it up until the tongue was cleared. In four days she had a normal tongue. No astringents or other drugs were used. The woman recovered and is well at the present time. In this case, intestinal indigestion was hindered because of the absence of the normal amount of bile in the intestine. Fats are never digested in the absence of bile, and fermentation and decomposition are bound to result; and these two elements produce a morbid frequency of the discharge from the intestines.

4250 Morgan Street.

[Written for the MEDICAL BRIEF.]

The Treatment of Typhoid Fever.

BY PALMER C. COLE, A. M., M. D.,
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New York City.

The etiology and symptomatology of typhoid fever are too well known to require repetition here.

In doubtful cases use the Widal test. As most physicians are unable to make this test, all that is necessary is to dry a drop of blood on a sheet of glass or on a half-inch square of perfectly clean white blotting paper; send it to the nearest bacteriologist and get his report.

Typhoid fever is essentially a filth disease. The germs enter the system through the alimentary canal, chiefly by means of impure water and contaminated milk—witness the epidemic in Ithaca last season on account of foul water supply. The disease is more prevalent in the country than in the city, as almost all our large cities, except Chicago and Philadelphia, have a pure water supply, while in the country, through carelessness or ignorance the supply is apt to be impure.

The treatment can be summed up briefly in the following: Good nursing, milk diet and the judicious use of cold water.

Place the patient in the largest and most airy room obtainable. In warm weather the doors and windows should be protected by screens against flies—those carriers of contagion. All excreta must be thoroughly disinfected. I place little reliance on medicine. There is one prescription, however, recommended by the late Dr. George B. Wood, of Philadelphia, which has been found of great benefit. With a furred, cracked and black tongue, an emulsion of turpentine, gum acacia and sugar acts charmingly. Its beneficial action is chiefly in the ulcerated Peyer's patches.

Do not be afraid to use cold water internally and externally. Internally, preferably in small quantities repeated frequently as the patient desires. Externally, in high temperatures, in which cases the Brand method is best, but almost impossible to be carried out except in hospitals—utterly impossible in the country. Cold packs, therefore, must take its place. When the temperature ranges above 101° F. cold packs must be resorted to. For the benefit of those who may not be familiar with the technique of this treatment I will briefly outline the method: Two thicknesses of linen toweling, loosely stitched together and long enough to wrap around the whole body and slightly overlap, extending from the neck to the lower edge of the pelvis, should be provided. If there are fringes to the toweling they must be cut off. Two sets of toweling are necessary. Have an ordinary wash tub three-quarters full of water. By means of ice and a bath thermometer keep the temperature of the water at 65° F. After applying cover the toweling with flannel. Change the pack every hour day and night. In making this change the patient must not be raised, but gently moved over in bed, the pack removed and replaced by the other; throw the linen in the cold water and dry the flannel. The extremities should be sponged with cold water. When the temperature is reduced to 101° F. the packing should be stopped.

Although it is popularly believed that the cold is simply to reduce the temperature, this is not its most important function. It tones up the nervous centers, strengthens the heart's action and promotes digestion. My experience has been that this is grateful to the patient.

The diet should be exclusively milk continued until complete convalescence. Some years ago when I had typhoid fever, after a milk diet of nearly five weeks I was convalescing finely when the doctor told me I might eat a small piece of beefsteak. It tasted delicious, but in a few hours acute diarrhea set in which confined me to my bed two weeks longer than would have been the case had I adhered to the milk diet.

Absolute rest in a horizontal position must be insisted upon. Long before the patient is fully convalescent he will feel as though he were strong enough to get up, but his wishes must not be complied with. A horizontal position is imperative until full convalescence is established.

During the Civil War I had an assistant surgeon who passed through a severe attack of typhoid. He was so nearly convalescent that the nurses were allowed a little more liberty, and at times he was left alone for short periods with strict injunctions to remain quietly in bed. On one occasion when the nurse was absent he got up, dressed himself, and walked perhaps one hundred yards and returned to bed. In two hours he was dead. Autopsy revealed a rupture of one of the ulcerated Peyer's patches and effusion of the contents of the intestine into the peritoneal cavity. In his weakened condition he died from shock.

This simple treatment, if carried out, will result in satisfaction to the physician and health to the patient.

247 West Forty-Second Street.

[Written for the MEDICAL BRIEF.]

Treatment of Colles' Fracture.

BY EDMUND D. CLARK, M. D.

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The cardinal symptom of Colles' fracture is a characteristic "silver fork" deformity; the lower end of the upper fragment being misplaced to the dorsal side of the radius, the upper end of the lower fragment being misplaced to the palmar side. The styloid process of the ulna will be found at a point lower than the styloid process of the radius. In the normal arm this condition of affairs is reversed—the styloid process of the radius being lower than that of the ulna.

An unnatural mobility and crepitus are the two symptoms that when found are always indicative of fracture, are many times absent in the Colles' fracture, owing to the fact that this variety is an impaction rather than a clean break through the bone. These symptoms (unnatural mobility and crepitus), therefore, cannot be depended upon in making a diagnosis. One must depend upon the deformity and upon the X-ray. The latter is an indispensable aid in determining the quality of fractures and extent of the injury. I never trust myself in any injury about the joint without the aid of the X-ray skiagraph.

Treatment.—I think we should never attempt to overcome the deformity in a Colles' fracture by means of a splint. I have never seen a splint devised that would reduce this fracture. Where it is impossible to bring about a reduction of the fracture without the use of an anesthetic—and there is no reason why an anesthetic should not be used—it should be given, and the deformity forcibly corrected. When this is done there is little tendency on the part of the fragments to again become misplaced. It is a fracture which will many times require the combined strength and skill of the surgeon to properly reduce.

If a splint is used it should never include the fingers, since it is almost impossible to overcome an anchylosis in many instances. I prefer board splints, well padded, or plaster splints, to a cast. The dorsal splint should extend from a little below the elbow to the roots of the fingers; the palmar splint extending from just below the elbow to the base of the thumb. The splints should be bound on with a bandage or with adhesive strips, and should be allowed to remain from four to six weeks, the time varying with the severity of the case and the age of the patient.

One should always be guarded in his statements in giving a prognosis in fracture of the radius, and should say to the patient in adult life that the probabilities are there will be more or less de-

formity remaining, with possibly some limitation of motion in the wrist. However, in the majority of cases one should expect to obtain good results.

A fracture of this sort should never be considered as cured until complete function of the arm is restored. It certainly is not cured with the formation of the bony union. When the wrist is perfectly movable, when the joints and fingers have again attained their normal condition, and all of the pain, swelling and discoloration have disappeared, then, and not until then, can one say that the patient has completely recovered.

401 Claypool Building.

[Written for the MEDICAL BRIEF.]

On Division of the Fee; Or, "Medical Graft."

BY EMORY LANPHEAR, M. D., PH. D., LL. D.

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In a recent reprint entitled "Shall the Specialist Pay a Commission to or Divide a Fee With the General Practitioner?" I drew the following conclusions:

1. After due consideration of these two questions from every standpoint I am sure it is not right for the doctor to demand nor the specialist to pay a commission.

2. There is a vast difference between paying a "commission" for all business supplied and dividing a fee under appropriate circumstances. For a "division of the fee" is not only proper, it oftentimes is imperative, if an injustice is not to be done the family doctor.

3. In ordinary consultations no division of the fee should be thought of; the specialist goes to the patient with the doctor, makes his examination, gives his opinion and advice to the attendant, receives his honorarium, and leaves the case to the family doctor.

4. In cases simply "referred" to the specialist for treatment no division of fee is usually proper; the attending physician does nothing but direct the patient to the specialist, properly with a letter explaining previous condition and treatment, ability to pay, etc.—the specialist does the best he can for him, accepts the fee and thanks the doctor—returning the patient to his family doctor at the earliest possible moment.

5. When specialist and doctor jointly attend a patient, division of the fee is honorable and just—no attempt being made to conceal the transaction from the patient; for the time being they act practically as partners—dividing the work and the responsibility between them and should divide the fee also, in proportion to the value of the services rendered by each.

6. When the specialist operates in the home of the patient, in city or country, and the physician assists and assumes the responsibility of the after-treatment it is the duty of the operator to ascertain whether or not the regular attendant has been, or will be, paid sufficiently well for services rendered—if not, then divide the fee equitably.

7. When a physician leaves his practice to accompany a patient to the city, in order that a competent specialist be secured, it is right for the specialist to find out whether or not the doctor has been, or will be, paid for his time and trouble—if not, then divide the fee in such manner that the doctor shall not sustain pecuniary loss.

Five thousand reprints were mailed, with request for expression of opinion. *More than two thousand doctors have commended my position;* less than one hundred (chiefly eclectic and homeopathic practitioners) have condemned it. One St. Louis surgeon read a paper before the St. Louis Medical Society, describing my reprint as favoring "Medical Graft;" two doctors sent criticisms deserving comment.

The first having in mind my statement that "the specialist who never thinks of dividing a fee is not merely failing to give the family doctor his just dues, *he is doing future patients a very grave injustice by leading the general practitioner to attempt that for which he is ill prepared; for, rather than lose all the fee, many a doctor will delay operative treatment until too late, or worse—will try to perform operations he ought never to attempt,*" writes thus:

"The physicians in the rural districts can, and are able to, do their own work, thereby preventing 'grafting'—which is unjust to their patients."

To this I answered:

"There are, I am glad to say, many doctors in the country and small cities just as competent to do certain surgical operations as the most skillful specialist of the city; but few of them are so situated as to render safe such formidable operations as trephining the spine, opening the pericardium, or even removing a prostate; some hesitate to assume the whole responsibility of such work as hysterectomy for cancer and the like; and, finally, many patients are so *obstinate* as to *insist* upon going to a large city for operation. If you were to accompany such a one to me and assist in the operation, would you consider it 'graft' if you accepted a third of the fee—*with the knowledge of the patient?* That is all I contend for." And I am glad to say that a vast majority of general practitioners agree with me.

The other (who was too cowardly to sign his name) wrote: "Why should the specialist take two-thirds of a fee and leave the attending physician only one-third? Why should he not divide equally under all circumstances? What makes a specialist's fee worth more than mine?"

To this I wish to say: (1) "Practice makes perfect." I have been limiting my work to surgery and gynecology for many years; have taken five post-graduate courses in this country and Europe; *have paid the hospital expense of hundreds of patients* for the mere benefit to be derived from the experience; and finally (to take a popular operation as an example) have made more than three thousand abdominal sections. Can any sane man think for one moment that my work is not worth more than that of the doctor who never made a dozen capital operations in his life? or that my responsibility is not greater in opening the brain or even the gall-bladder than that of the man who later merely changes the dressings? In surgery, as elsewhere, the man with special skill must (and should) receive more than his friend, the doctor, even though he be just as smart, just as deserving and just as poor.

As a result of my correspondence I must conclude that the medical profession, as a whole, is overwhelmingly in favor of a joint bill and equitable division of the fee in appropriate cases.

[Written for the MEDICAL BRIEF.]

Goitre.

BY JOHN WALTER PERKINS, A. B., M. D.
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Goitre is always endemic in the Missouri Valley and is sometimes epidemic. During the past winter there has been an unusual number of cases of acute goitre; some of these goitres having attained the size of a fist in two or three weeks. Young girls at puberty seem to be especially susceptible to the infection. With these growths are often associated swelling of the para-thyroid glands which frequently stand out from the thyroid and are therefore easily diagnosed.

That form of goitre known as exophthalmic occurs frequently in the Missouri Valley, and especially in the middle and western portions of Kansas. These cases are essentially different from the acute goitres which are more commonly observed.

Cases of atrophy of the thyroid, cretinism in children and myxedema in older patients, are comparatively rare, but are seen occasionally.

The iodine treatment will cure ninety per cent of goitres, if properly used. Tincture of iodine in water, with enough iodide of potash to keep it in solution, is all that is needed. Dose should be from five to twenty drops of the tincture, the minimum dose at first, and gradually increased as the tolerance is established. With this should be associated an ointment of iodine (U. S. P.), diluted before being used with from two to six parts of lanolin. It should be applied on a leather collar, buckled behind the neck at night and removed in the morning, all traces of the ointment being washed off during the day. The use of this ointment is an essential part of the treatment.

The cases which come for operation are old or cystic goitres which, usually, have

never been treated. These goitres have organized into hard fibrous or cystic masses not then amenable to treatment by any medicinal agent known. These cases are easily handled by a competent surgeon, the death rate being less than two per cent. The enlarged portions of the glands should be removed so as to relieve the trachea from all pressure. As a rule it is not necessary to remove the entire gland. I have seen myxedema develop in one case only after operation.

The danger in operation is due entirely to hemorrhage, the gland being very vascular, with widely distributed blood supply, and is often deepseated and difficult to enucleate.

Some of these old goitres have been injected with one substance or another, and the injection has led to the formation of fibrous nodules in the gland and many adhesions between the capsule and surrounding parts, adding to the difficulty of operation. In two recent cases the gland had become adherent to the internal jugular vein through the formation of adhesions and nodules due to the injection of tincture of iodine into the gland, and in both of these cases there was an extensive tear in the vein when the goitre was removed. Both patients, however, recovered.

Operation is not to be advised before the iodine treatment has been given a thorough trial, even in the older cases, unless pressure symptoms are marked and dangerous. The relief of the symptoms in exophthalmic goitre by removal of the hypertrophied portion of the gland is most remarkable. The proportion of cases of exophthalmic goitre is much smaller than the acute variety. Unless the symptoms yield rapidly to medicinal treatment the hypertrophied portion of the gland should be removed at once, and in the majority of cases the rapid pulse, bulging of the eyes and general nervous trepidation will disappear within one or two months after the operation. The only case in which I have known a failure was one where the disease had existed for at least two years and the nervous manifestations had developed a neurasthenia, the symptoms of which overshadowed all others, and finally caused the death of the patient.

An operation for the removal of the hypertrophied portion of the thyroid in cases of exophthalmic goitre is reasonably safe, although the death rate is higher than in cases of chronic goitre.

The use of thyroid extract in atrophy of the gland is well known, but its use should be confined to cases of myxedema and cretinism. In acute goitre the symptoms are often increased, and in exophthalmic goitre they are markedly increased, by the use of the thyroid extract.

Altman Building.

[Written for the MEDICAL BRIEF.]

Oral Hygiene a Necessity to Health.

BY BURTON LEE THORPE, M. D., D. D. S.,
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The medical profession and the layman seemingly do not realize the importance of the hygienic care of the oral cavity, which is the incubator of many of the systemic diseases that the human system is heir to.

Frequent cases of disease of the intestinal tract, such as dyspepsia and gastritis, may primarily be traced to infection caused by decayed teeth and defective hygiene of the mouth due to the accumulation of salivary calculus (tartar), the remains of diseased roots of teeth, which cause abscesses, hyperthophied (spongy) gums, etc., all of which contribute to systemic infection.

Some cases of appendicitis no doubt result from infection from unhygienic conditions of the mouth. The writer has seen one appendix which contained an amalgam filling, several bird shot and several bits of calcic material apparently broken loose from around the teeth and swallowed.

It is a general accepted belief that *the mouth is the breeding place* of the *bacillus of influenza, and that oral sepsis is the predisposing cause of influenza, and that patients having hygienic mouths are practically immune from influenza.*

In diagnosis it is the duty of the medical practitioner to examine the condition of his patient's teeth and gums, and if carious teeth, inflamed and spongy gums,

roots and their sequelæ, *i. e.*, abscessed conditions, etc., are in evidence they should be immediately referred to the dental practitioner for treatment. No greater service can be rendered the average man, woman or child than, at least, regular semi-annual visits to the dentist, who should remove the salivary deposits, thoroughly polish all surfaces of the teeth, treat and cure hypertrophied gums and repair all defects resulting from caries, and the instruction of when and how to brush the teeth and gums and the prescribing of a proper tooth brush and antiseptic mouth-wash.

Few patients know that the teeth and gums should be brushed immediately upon rising in the morning and again just prior to retiring at night and after each meal where it is possible. The brushing and cleansing of all mucous tissue, *i. e.*, gums, tongue, buccal and labial cheek and lip muscles, and the palate tissue, is of equal importance. This may be accomplished by a *stiff bristled flat surface* tooth brush, with which the gums are massaged with a rotary motion, brushing the lower gums upward and the upper gums downward toward the necks of the teeth.

The so-called "*prophylactic*" tooth brush with a curved handle and irregular rows of bristles should be discarded, as *it does not* remove the deposits of bacteria and food debris lodged around the tooth and gum surfaces, as does the flat surface brush.

Another useful instrument indicated for patients who continually possess "the constipated" furred tongue, is the tongue scraper—a narrow celluloid band curved —about the size of a silver half-dollar, attached to a celluloid handle. With this instrument drawn across the tongue daily the hardened fur-like mucus can be scraped from the tongue, thus greatly increasing the hygiene of the mouth. Floss silk or small rubber bands run between the surfaces of the teeth after eating also materially aids in lessening the chance of decay and oral sepsis.

The dentist is best prepared to prescribe a proper mouth wash after testing the saliva; however, one simple and beneficial to the majority of mouths, which hardens the gums and cleanses the teeth, is none other than a two per cent carbolic acid solution held in the mouth during the process of brushing.

In mouths where the saliva is acid, of course an alkaline mouth-wash is needed, such as a solution of milk of magnesia applied nightly. As a preventive of decay and an agent to harden diseased gum tissue, a ten per cent solution of silver nitrate is unequalled. This, however, should be applied only by the dentist at intervals, as it temporarily stains the teeth and should be removed by him at a following visit with brushes and powders.

The main essentials are the mechanical and surgical removals of all deposits and diseased tissue, followed by astringent and antiseptic agents to heal the gum tissue, and the constant practice by the patient of daily mechanical friction with brush, powder and antiseptic washes. With these general infection may be avoided and systemic diseases prevented.

305 North Grand Avenue.

[Written for the MEDICAL BRIEF.]

Some of the Remedial Uses of the Actual Cautery.

BY THOMAS H. MANLEY, PH. D., M. D.*,
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The actual-cautery is a remedial agent of great antiquity. Frequent reference to its potency and the conditions calling for its utilization may be found in the writings of Hippocrates, Galen, Paracelsus, and others nearer our own time.

It was regarded with special favor by the Hebrew and Mohammedan practitioners, because its employment involved no loss of blood. Up to the time of Ambrose Parry it was widely availed of as a hemostatic in surgery, especially in amputations. The late Scotch surgeon Keith enormously lowered the mortality in removing uterine-fibroids, by the use of the cautery-iron on large open vessels.

The actual-cautery like all effective therapeutic agents of great intrinsic value, shared their fate; first attaining great currency and popularity, then set

* Deceased.

aside for some other, more acceptable, and for a while quite forgotten, to be again resuscitated and replaced; perchance, by some ambitious novice who claims a "new discovery."

In ancient times, the cautery-irons were crudely constructed, and anesthetics being quite unknown, the deep-searing of the tissues was attended with unbearable torture. After Parry revived and popularized the ligature, singing of the larger divided vessels as a current practice became unpopular. One would suppose, that with the employment of modern technique, in the treatment of open wounds there remained no further place for the cautery.

With the ancients difficulty was experienced in maintaining the irons at a glow, and hence, we note Riolan, Parry and other contemporary operators, recommending the employment of boiling oil as a substitute for them.

The invention of Paquelin's air-pump for projecting the fumes of benzine into a hollow perforated platinum tip, marks a new era in operative medicine, as it is the very acme of a perfected cautery. The Paquelin-cautery gave promise of again reviving and popularizing a most invaluable therapeutic resource; but it had some serious drawbacks, which led soon to indifference in its employment.

It was expensive; it was easily put out of order, and soon became more ornamental than useful. In my own hospital work, it was generally found disordered, or away for repairs when most needed, that in despair, we cast it aside for other less desirable but more accessible means. Moreover, the use of the apparatus was not without dangers. In an operation some years ago, on a young lady for hemorrhoids, in her own house, while under the anesthetic, she gave a convulsive kick. This broke the bottle and splashed the inflammable benzine over my own bared arms, the patient's limbs and sterilized coverings. In an instant all was ablaze, but thanks to the coolness and quick action of the nurse the fire was promptly checked.

Now, with the general falling in prices of surgical supplies of every description the Paquelin-cautery, under another name, and an altogether superior apparatus, may be had from two dollars to three dollars in the art department of any large dry goods store. It is known to the trade as a "pyrograph;" with it comes a booklet, giving full directions for its preservation, its use and repairs. At this low figure, this is an intrument which no progressive practitioner can afford to be without. We may, of course, employ the electro-cautery, but here again one must count on a crippled machine, often at the time one most needs it; those supplied by the current from a small battery are seldom of any value at all.

The use of the cautery as a styptic.—A ligature without serious defects has yet to be discovered, *i. e.*, one of sufficient strength, at the same time sterile and absorbable.

The potential-cautery is absolutely sterile, and a powerful germicide. Its action is circumscribed; for the smaller arteries or for oozing from deep vessels or in hemophilia it is a hemostatic of unrivalled energy.

In hemorrhoids—In bleeding piles those dependent on small vascular papillary tumors, inside the sphincter ani, a touch of each with the cautery tip puts an end to them.

Nævus.—I have found it the *beau ideale* in nævus; in small tumors, one treatment is quite sufficient; but those of large area may require several.

In carunculæ.—In these painful angiomatous pea-like growths, carunculæ of the meatus-urinarius of the female, no means whatever equals the cautery.

As an Escharotic.—In inflamed, edematous or fissured hemorrhoids, in fact, in any or all types of varices at the anal-verge, small or large, single or in clusters, the skillful use of the cautery will absolutely dispense with the need of every sort of cutting operation. As a preliminary step our patient must be anesthetized, and the sphincter well dilated, that the whole mass may come well under the eye, when each one is dealt with separately. The procedure should be bloodless and painless. Vascular engorgement, but no severe pain follows. After reaction subsides the work of resorption proceeds, till no trace of the piles remain.

Papilloma and Condyloma.—The pyograph is a simple, effective and certain instrument in every description of cutaneous excrescences, in warts or moles; in the early, papillary stage of carbuncle, or chancroid; and so will we find it superb, in anal or penile condyloma.

Sabitier, at considerable length, describes the large and varied types of this class amenable to the cautery—(*Medicine Operatoire Vol. III, p.* 217).

Epithelioma.—The late Dr. Sigismund Waterman, of New York, first called my attention to the remarkable effects of the actual-cautery, in the early ulcerative stages of cutaneous epithelioma; more notably that of the lip, in men. This calls for a deep burn, a positive charring of the surface layers of the integument, or even through them. The intelligent employment of caustics is well-known to possess marvelous powers in peripheal cancer, located over any areas of the body; the caloric-cautery should be preferred to all others, when it is expedient to use it.

The X-ray and the Finsen rays are essentially nothing else than a thermo-cautery in a new dress.

Their novelty is their chief attraction, and the public is everlastingly on the chase after new things.

Lupus and Lupoid Growths.—It is strange and mysterious that cutaneous-tuberculosis rarely only attacks the integument of the face, but whether Koch's bacillus cuts any figure or not in this affection, we well know, that clinically it is a malignant disease; that like cancer, it devours all the soft parts in its path, but, unlike this, it spares the bones.

Now, here again the various rays are vaunted the loudest as curative. In my own hands the actual-cautery, applied in the early stage of this ulceration, has given most satisfactory results. With the first signs of relapse the lupoid ulcer must be again freely burned out.

Here, the effects of this line of therapy, are to first arrest the protoplasmic changes at the site of ulceration, and, secondly, to establish a healthy reaction, induce a large leucocytosis, with at least a temporary extinction of the pathogenic bacteria in operation.

It is frequently necessary, after deep cauterization, to apply an emolient salve or soothing lotion, to quiet the intensity of inflammatory reaction, but as a protection to the soft parts no special envelope is required, as the eschar effectively seals all the open vessels.

The Actual-Cautery as a Deterrent or Revulsive Agent.—The range of cases in which the thermo-cautery may be employed as a revulsive agent, with the most salutary effects, is very large, and it may be added, that it has a wide sphere of usefulness in psychological-therapeutics as well.

Every practitioner has noted the effects on the sensorium, of sudden impressions produced by the mechanical infliction of pain, or the shock of various surgical operations. In neuralgic, neurotic, a highly sensitive individual, this is best accentuated.

In Chronic Joint Affections.—In the arthropathic affections, whether they be of a functional or organic origin, the incandescent cautery-disc is an agent of great value. It is most efficacious over the spine, in dorsal lumbar or sacral affections, of a neuralgic or inflammatory character.

In "white swelling" of the knee joint, or the stiff, swollen and painful joint, succeeding trauma, especially sévere sprain, the objective and subjective symptoms undergo marked abatement after igni-puncture or the cross-current of the integument. The distressing pain at once diminishes or disappears; the patient who enters, with a limp, using a cane or crutches, has recovered confidence with muscular control, and often goes out without them. In hysterical joints it acts like magic; and this strange, mysterious affection, we should remember, often complicates every description of the arthroses, and occurs in children and men, as well as in women, but not so frequently.

Sexuo-Psychopathy.—The psychological effects of the cautery is often most happily manifest, in those cases of (the harvest of the charlatan) "lost manhood;" in spermatorrhœa, sexual perversion, lack of confidence, despondency with a general want of tone of the entire system.

In this pitiable class conjoined with constitutional remedies, etc., the multiple caustic indentation over the lumbar spine, often effects the most gratifying results.

In conclusion, it may be said that the cure or the alleviation of disease—therapeutics—after all, is the cardinal object of medical science; all other cognate branches are but secondary, or of subsidiary importance.

Many believe that, in our times notwithstanding the added years and lengthened term, the modern graduate is rather overtrained in theoretical studies to neglect of essentials, for, in practical therapeutics, he is often found lamentably delinquent.

We are often only too prone to ignore many valuable remedial agents, because the flavor of antiquity, or because we do not understand their action. Moreover, we have been of late, too ready with drastic, sanguinous intervention when other simple and equally effective resources are at hand, which only call for a knowledge of *when and how to use them.*

[Written for the MEDICAL BRIEF.]

Changes in the Urine as a Diagnostic Symptom.

BY JAMES L. HARRINGTON, M. D.,
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In considering the pathological changes in the urination one must first understand the physiological act. Physiological urination is a pleasurable sensation, no effort is necessary to perform the act. The urine is secreted in the kidneys and flows through the ureters into the bladder unconsciously. It is retained in the bladder until about a pint has accumulated. Then the urine, pressing on the internal spincter muscles, which are involuntary, causes them to open or relax; it passes on to the middle sphincter muscles, which are partly under control of the will, thence to the next set of muscles, which are wholly under control of the will, and is retained until the individual has an opportunity to urinate.

In considering the pathological changes or urination, we must consider: first, that which contains the urine—the bladder; second, the urethra through which it passes to the external world; and, third, the urine itself.

The bladder normally holds about one pint, but under certain conditions, may be distended to hold as much as three pints without injury. The urine collects in the bladder continually, until about one pint is retained, and is thrown off about every six hours during the day. In females, the bladder being small, urination may be more frequent during the day and, possibly, once at night. The anatomy of the urethra is such that the urine passes through from one portion to another without effort. The urine itself is an aseptic fluid, and in any case may be retained for a considerable time without causing trouble.

The pathological changes to be considered are:

1. Pain; before, during, and after urination.
2. The length of time required to perform the act.
3. The effort necessary for the expulsion of the fluid.
4. Changes in the normal urine as to reaction and constituents.

Pain before urination may be caused by the urine itself, except in nervous troubles and cystitis.

Pain during the act indicates inflammation of the urethra.

Pain following the act indicates inflammation of the posterior urethra, or the neck of the bladder, and is caused by the contraction of the accelerator urinæ muscle, and the constrictor muscle of the bladder; also, caused by foreign bodies, such as stone in the bladder, in the effort of nature at expulsion.

Constant pain before, during, and after urination denotes an inflammation of the bladder, as cystitis, cancer, hypertrophied prostate, tuberculosis, etc.

If an effort is required for the expulsion of the urine it may be due to obstruction of the urethra, or at the neck of the bladder, or within the bladder. Obstructions in the urethra may be stricture at any point, stone, hypertrophy of prostate, or any foreign body at the vesical orifice, or within the bladder. The bladder wall may be thin, or has lost its elasticity or

expulsive force; therefore lengthening the time required for the act of urination. The time necessary to perform the act depends upon the contractibility of the bladder, and the size of the normal urethra. The practitioner must differentiate between the congenital small urethra, or a weak bladder, or a pathological condition.

Frequent micturition during the night nearly always indicates inflammation of the prostate or posterior urethra. This is due to the great blood supply around the neck of the bladder and prostate, which congests during inactivity, and is relieved by exercise during the day.

Frequent micturition during the day indicates some foreign body within the bladder, such as stone, uric acid crystals, etc.; this is intensified by moving around.

Frequent micturition during the day and night indicates inflammation of the bladder, cystitis.

The stream is usually full, round and spouting. Nature has so devised the urinary apparatus that the urine can be thrown from the body without effort.

In stricture the stream is small and retarded, twisted, or bifurcated, followed by a dribble. This may be followed by a loss of expulsive force and, finally, the urine passes drop by drop with great effort. In hypertrophy of the prostate, in the beginning of the hypertrophy, the patient first notices that there is increased frequency of micturition, particularly at night. More effort is necessary to perform the act, and the act is not satisfactory; it does not seem complete. As the hypertrophy increases, the lower level of the bladder increases, and, of course, results in more residual urine. This urine becomes ammoniacal, causing cystitis. Then we have frequent micturition, both day and night, constant pain, and a loss of expulsive force, finally ending in retention. All of these symptoms are intensified by indiscretions on the part of the patient.

The points that I wish to bring out are, that pain and frequent micturition do not necessarily mean cystitis. In cystitis it is necessary to have three symptoms present: Pain, frequent micturition, and pus in the urine. Without these three symptoms at the same time you can not have cystitis.

Frequent micturition at night is the principal diagnostic symptom of inflammation of the prostate, posterior urethra, or neck of the bladder. Pain during the act of urination, and pain following the act, denotes some pathological change or changes in the urine, or within the bladder itself.

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[Written for the MEDICAL BRIEF.]

Ethics.

BY JOHN A. WELSCH, M. D.,
Farber, Mo.

The formulating of rules of conduct for the individual guidance of the members of the medical profession has always been a difficult problem which, at the present time, seems to be no nearer a solution that it was in the beginning. This has given rise to the dominating of the entire profession by those in control. I did not say of a majority, because the majority has always been dominated by a few who secure certain powers and immunities by securing the enactment of laws in the various States. These laws giving them certain power to what they term, regulate the practice of medicine. And which, in reality, is no such thing. It finally resolves itself into a question of ethics and the collection of fees. Such are the practical illustrations furnished us by the various State Boards of so-called examiners, health, etc., which are the local representatives of the political powers that be. For instance, there are physicians that believe it is unethical to use the daily press for the purpose of announcing their qualifications for the practice of medicine. While others believe that it is not only unethical but an injustice to suffering humanity to neglect to announce to them in every possible way that you are skillful in certain directions. As by refusing to do so they may fail to secure a cure on account of their ignorance of your ability. And this opens a large field for controversy and injustice. For instance, the various State laws grant the right to these boards to revoke a physician's license for

unprofessional conduct. So that the only way a physician can be assured of his inalienable right is to find out the best way he may as to the views of his local guardians (State Board), and conform his views to theirs; this gives him temporary immunity. Of course, when the Board changes, the views may change. And in order to keep in line with the powers that be, it requires a mental contortionist (or an ape). Of course, while they are working these dodges they are keeping the physicians interested through the magazines and otherwise, by what they are pleased to call the great American fraud, etc.—a pretty good disguise, at least it has worked well. These boards have an organization of what they term "reciprocating licensing boards," and at their last meeting adopted some very sensible resolutions; that is, they would be just if there were any grounds for such an institution as a licensing board, but, unfortunately for their position, there is no such an excuse that will bear a close inspection. They, in their official capacity, became faddists. In certain States they have taken a notion that they are prohibitionists, and revoke every physician's license that they can find engaged in the liquor trade. This is done on the grounds of unprofessional conduct, which, of course, is a question of ethics. Certain courts have passed upon the rights of these guardians with special reference to revoking licenses, with, of course, differences of opinion. The Supreme Court of Missouri, in a recent decision, says that the State Board has a right to revoke licenses for unprofessional conduct, and to order a physician before it for trial. While the Superior Court of California says, in a recent decision, in regard to what is termed unprofessional conduct: No definite standard is furnished by the law under this provision whereby a physician can with any safety advertise his medical business, nor is there a definite rule declared whereby, after such advertisement is had, that the Board of Medical Examiners shall be controlled in determining its probability or improbability. The right which a person possesses under the Constitution and the laws to practice his profession as a physician and surgeon can not be made to depend upon a provision of a statute as vague, uncertain, and indefinite as is the provision we have been considering. "If a physician's license is to be revoked for "grossly improbable statements" (as was the charge brought in this case), if he is to be thereby deprived of his means of livelihood, of his right to practice a profession which it has taken him years of study and a large expenditure of money to qualify himself for, on the ground that he has made grossly improbable statements, it is requisite that the statute authorizing such revocation define in advance what shall constitute such statements, so that the physician may know in advance the penalty he incurs in making them. This decision is perfectly compatible with the Constitution, which says: "No State shall make or enforce any law which shall abridge the privileges or immunities of citizens of the United States, nor shall any State deprive any person of life, liberty, or property without due process of law."

Now that chaos exists in the profession with regard to ethics, there is no doubt the Golden Rule is ethics enough, and many physicians use it to the exclusion of all others. The majority of physicians are broad minded, educated people, and deplore the methods of the would-be leaders and exploiters of the profession. But what is the remedy? There are a number of suggestions offered, but the only real remedy is to see that a bill compatible with common sense is introduced into each legislature at its next meeting which secures equal rights to all and special privileges to none. Recognition for reputable medical graduates at a reasonable fee, enough to cover cost of issue of certificate, and provide for the faculty of the State University to examine all under-graduates who desire to practice, do away with those un-American nuisances known as health (?) boards—a health officer in each State to be paid by the State is better. This was demonstrated by Texas during the recent yellow-fever epidemic. This is the only satisfactory solution of the question of ethics.

I must read the BRIEF again this year, and it is well worth the price. Herewith find order for one dollar.—C. H. KIMMO, M. D., Florence, Ark.

[Written for the MEDICAL BRIEF.]

Adhesions Involving the Gall-Bladder, Gall Ducts and Adjacent Organs.

BY M. R. BARKER, M. S., M. D.,
Chicago, Ill.

Perhaps there is no subject more familiar to abdominal surgeons than peritoneal adhesions about the gall-bladder, gall-ducts, and adjacent organs. Possibly there are also no conditions the surgeon approaches with more apprehension. No one can fully appreciate but the surgeon, who has been there, the feeling of relief that comes when, upon opening the abdomen to do work upon the gall-bladder or gall-ducts for the removal of gall-stones or to remedy other conditions requiring surgical interference, to find his work is not to be rendered more perilous to his patient by the existence of extensive peritoneal adhesions, or bands, which so frequently unite all of the structures in the neighborhood of the gall-bladder and gall-ducts into an unrecognizable mass, each one of which must be emancipated from the bands that bind it by the most careful and painstaking dissections.

When such a mass presents itself the surgeon well knows that in it may be knuckles of bowel, the gall-bladder, pylorus, cystic-duct, common-duct, and sometimes the head of the pancreas, each out of its normal relation with the others. In other words, when he attacks that mass he does not know which organ in it he may uncover first, nor how much time it will require to unravel the tangle, nor how much damage will be wrought by his work before he is through. He simply attacks the mass, guided by his experiences in other cases and by the best judgment he has, and when he is through he can tell what has happened, and, if wise, will prophesy little before.

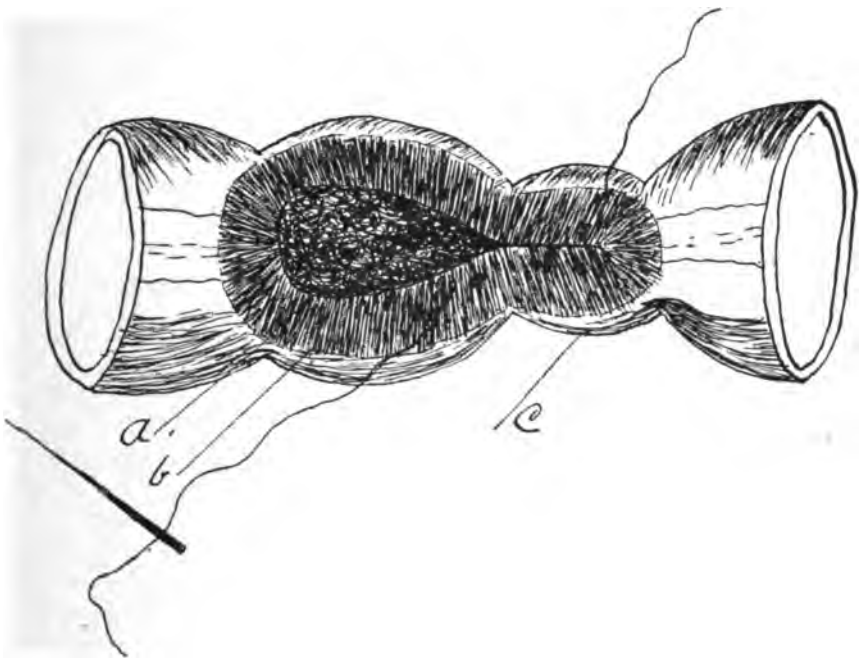

FIGURE 1.

a, Denuded surface; *b*, Adhesion; *c*, Intestine.

Sometimes these masses fall apart with the greatest facility. Again, it requires the time and judgment of the most skillful to separate them, all depending upon the firmness and well established character of the adhesions that unite them. When these adhesions become fully organized and fully developed tissue they are not easily broken up.

When the surgeon attacks one of these masses there are three essentials in his mind that must be accomplished if possible. First, the mass must be untangled and the organs in it liberated; second, the continuity of the walls of the viscera in the mass must be maintained; third, the denuded surfaces from which adhesions have been stripped, or cut, must be buried or covered in, so that adhesions to these places will not occur.

The adhesions in these masses are usually of one type; that is, they are short, with a more or less broad surface of attachment. In other words, the organs contained in these masses many times seem to be drawn together and united by continuity of surface. It is sometimes impossible to break up the adhesions between two organs, and not in some degree injure the walls of both of them. In this work about the gall-bladder, however, we can many times dissect the adhesion from the organs so as to take most of the tissue from the organ that is least essential to the system, thus greatly protecting the one that is most essential. For instance, should one of the organs be the gall-bladder and the other the transverse colon, duodenum, or pylorus, it would be best to take most of the tissue in making the dissection from the wall of the gall-bladder rather than from the other organs, leaving their walls as strong as possible. If the adhesions were between the cystic-duct or common-duct and the gall-bladder, we would favor the ducts rather than the gall-bladder, in this instance, for the reason that we could not cover in a denuded surface on the ducts without being in danger of narrowing its lumen too much. If one of the organs was the gall-bladder and the other the head of the pancreas, we would favor the gall-bladder rather than the pancreas, not because it is less essential to the system than the gall-bladder but because it is not a hollow organ,

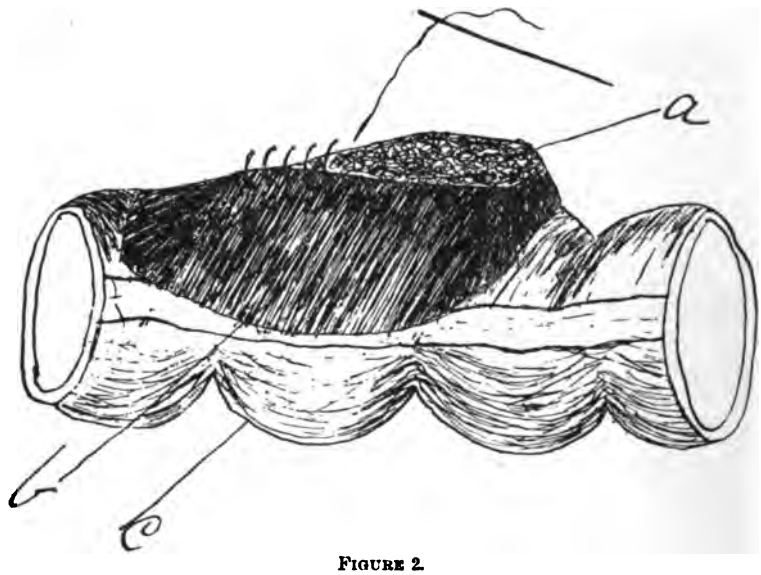

FIGURE 2.

a, Adhesion cut, showing fresh surface being covered in by overcasting its edges; *b*, Adhesive tissue; *c*, Intestine.

and there is no danger of weakening its wall.

The further reasons for the above will be found in the following: After dividing the adhesions and liberating the organs, as before stated, the denuded surfaces and raw ends of stumps must be dealt with to prevent further adhesions. If the denuded surface is large and is upon the wall of the intestine, or pylorus, it can not be closed by uniting its borders with sutures, as this would narrow the lumen of these organs too much and interfere with their functions (Fig. No. 1). But if the adhesions were cut very closely to the gall-

bladder or dissected from its surface, we might cover in the end of the stump by simply overcasting its edges without narrowing the lumen of the gut at all (Fig. No. 2). Of course, if the operation consisted only in breaking up adhesions and liberating the organs, the denuded places on the gall-bladder would have to be covered in, but the narrowing of the gall-bladder and reducing its capacity would matter little and do no harm. In most of these cases, however, the gall-bladder would be drained, in which case the denuded places on its wall would likely not come in contact with any of the abdominal viscera.

The long isolated adhesive bands that so often exist between the gall-bladder and other organs are of no operative consequence, as they may be seized with forceps and stripped from the wall of the gall-bladder and the fresh end rolled in like a bandage and stitched, thus burying the stump. Sometimes the denuded surface is so large that it cannot be covered by any of these methods. When this is the case a fold of the omentum should be placed over the denuded area and carefully stitched. This will prevent other organs adhering to the denuded part.

The dire results of adhesions of the gall-bladder and gall-ducts to other organs are due sometimes to the forming of kinks in these organs by peritoneal bands, in which cases these bands form veritable loops about them. For instance, peritoneal bands extending from the gall-bladder frequently encircle the transverse colon and hang it up as though a loop of it were thrown over a line (Fig. No. 3). The same condition may prevail with the duodenum, pylorus, or with the cystic and common-ducts. Another frequent condition in those mass adhesions, especially if there are stones in the gall-bladder, is when the adhesions draw the transverse colon against the wall of the gall-bladder, and by a continuation of this process the gall-bladder becomes embedded in the wall of the gut, thus narrowing its lumen (Fig. No. 4). This condition may also prevail when the duodenum is involved.

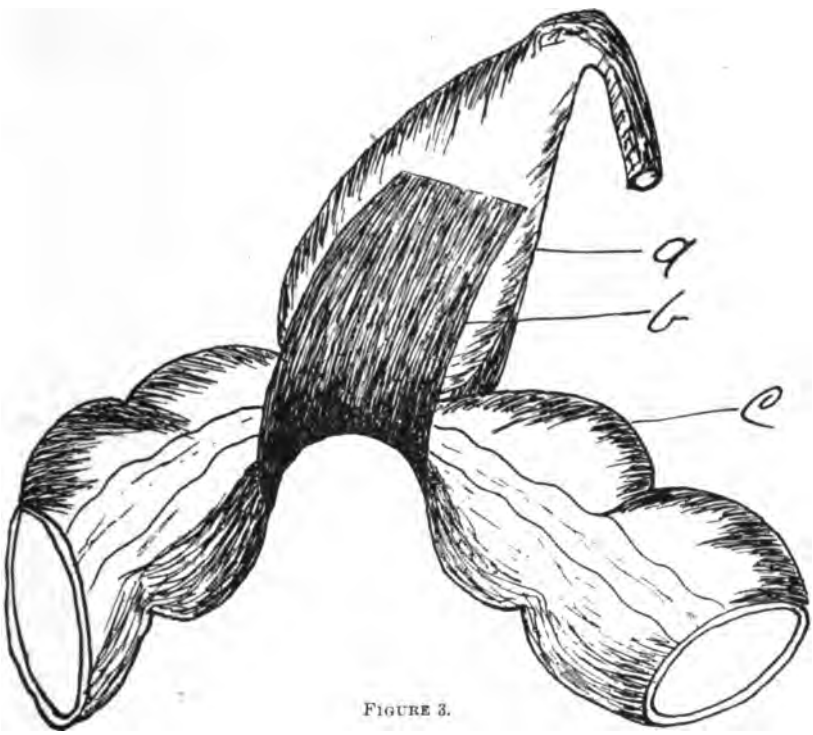

FIGURE 3.

a, Gall Bladder; *b*, Adhesive band; *c*, Intestine.

Adhesions about the gall-bladder are always due to an inflammatory process in the gall-bladder. The more virulent the infection the more dense and widely diffused will be the adhesions. In cases of empyema of the gall-bladder the adhesions are most extensive, and when the tissues are massed together as before noted (we may have these mass adhesions without empyema) and an attempt is made to untangle the mass, the surgeon, before he has scarcely begun, enters a pocket of pus, which is usually the cavity of the gall-bladder. To make any further attempt to break up the adhesions and free the organs is unjustifiable. If the mouth of this pus cavity can be brought into the abdominal wound and fastened there, that, of course, is the thing to do and makes the surgeon at once the master of the situation. But this often, and in the majority of cases, cannot be done. The only thing left, then, to do is to drain the cavity with a drainage tube wrapped with gauze and extending through the abdominal wound, all the parts being protected by gauze packing extending through the abdominal wound, and thus treating the pus cavity until it is well, after which it may be necessary to again invade the region, break up adhesions and probably remove the gall-bladder, which has already been functionally removed by the disease.

These are very difficult cases, but we meet them and must face them—there is no other way.

The abnormal systemic conditions that follow the deformities of the organs about the gall-bladder produced by adhesions, can readily be understood, and the distress and torments peculiar thereto can hardly be overdrawn by the descriptive powers of any. Cholemia, with all that the term means, due to damming the bile back into the intrahepatic gall-ducts and its absorption into the blood; digestive troubles due to the impeding of the current through the intestine; dilatation of the stomach with all of the consequent evils, due to obstruction of the pylorus; functional disturbances of every character due to toxines, which invariably accompany these cases, make a picture of distress, rendering its possessor a subject of commiseration indeed. As

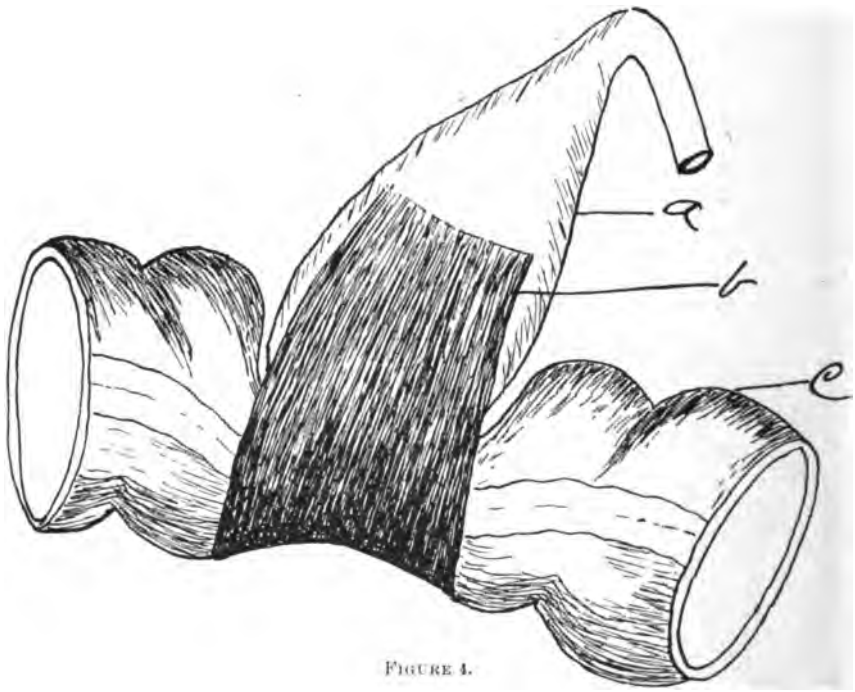

FIGURE 4.

a, Gall Bladder; *b*, Adhesive band; *c*, Intestine.

though this were not enough, we must add to it the constant never-ending pain these adhesions cause. The organs attempting to perform their functions tug and pull at the bands that bind them, and the more closely their bands are drawn the more vigorous their action and the more severe the pain. These patients are never without pain, their waking hours are full of it and their nightly vigils are in consequence of it. Their lives are a ceaseless travail.

As before stated, cholecystitis is the direct cause of these adhesions and all the evils that accompany them. Cholecystitis in a very large per cent of cases is due to gall-stones. The only deduction from this is, if we would prevent this condition, remove the gall-stones as quickly as they demonstrate their presence. When symptoms of cholecystitis appear, no matter from what cause, the gall-bladder should be drained and the malady cured before adhesions form and produce their characteristic results.

Time and nature will not break up these adhesions, unless they are slight isolated bands. If they are of this kind, the constant tugging of the organs in the attempt to perform their functions for a long period of time may result in the band becoming attenuated and at last broken. But where one is cured in this manner ninety-nine succumb to the condition. At best the patient must suffer for years before this process succeeds.

Adhesions of the gall-bladder and gall-ducts complicating the organs about them may produce results that so closely simulate carcinoma of the gall-bladder that differential diagnosis cannot be made without an exploratory operation. The mass that is sometimes present resembles a tumor upon palpation. If the common-duct is occluded jaundice will be present, and the consequent cholemia will produce the cachexia and emaciation not unlike that of cancer, and the constant pain in this condition will never remind one of cancer. If the condition has lasted a long time it will count against malignancy, though some cancers of the gall-bladder are rather slow developing..

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[Written for the MEDICAL BRIEF.]

Constipation—Its Pathologic Physiology and Treatment by Exercise, Diet and "Visceral Drainage."

BY BYRON ROBINSON, B. S., M. D.,
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(Continued from page 428.)

Visceral Drainage.—I wish here to introduce a method of treatment for constipation which I have employed successfully for a score of years. I have termed it "Visceral Drainage."

One of the most important principles in surgery is ample drainage of (septic) wounds. One of the most important principles in internal medication is ample drainage of the viscera. Fifteen years of the application of what I term "Visceral Drainage," in dispensary and private practice, has afforded me ample time to observe its extensive application and utility. Viscera are drained by several means, however; the two most rational and practical methods of visceral drainage are: (A) by fluids, (B) by appropriate foods. The viscera are the sewers of the body, and their proper drainage and flushing is the key to health and its maintenance. Draining the viscera drains and flushes the internal tissue and tissue spaces.

The muscles are powerful regulators of circulation (as exercise), hence there is stimulation, which increases the tone of vessels, blood currents, and prevents consequent congestion (the arch enemy) in chronic disease. The myometrium, like living ligatures, control the blood supply of the uterus. Visceral drainage initiates and maintains peristalsis, which controls visceral blood supply. A stimulus—whether it be an icicle, red-hot iron, electricity, massage, exercise—is what the flaccid muscles require to maintain peristalsis, which controls secretion and absorption. The endometrium flooded with excessive secretion (leucorrhea) rapidly assumes its normal secretion by stimulating the myometrium (by douche, massage, etc.).

A— *Visceral Drainage by Fluids.*—The best diuretic is water. It is the greatest eliminant. A man of one hundred and fifty pounds should produce daily some

forty-five ounces of urine. If we calculate the loss of fluid by the tractus perspiratorius, tractus intestinalis, and tractus respiratorius, it will require about five pints of the ingested fluid to produce daily forty-five ounces of urine. Many subjects do not drink over three pints of fluid daily, and that is performed chiefly at meal time, not only burdening the tractus intestinalis with the meal, but fluid also. Large numbers of people drink insufficiently and suffer consequent oliguria. Such subjects are burdened with waste laden blood, inflicting irritation and trauma on the nerve periphery. They are in conflict with their own secretions. Many women oppose free drinking, from the idea that it creates fat. Ample quantities of fluid, at regular intervals, is the safety valve of health and capacity for mental or physical labor. Ample fluids not only flush the sewers of the body, but washes the internal tissues and tissue spaces, relieving waste-laden blood. The soluble matter and salts are not only dissolved (preventing trauma and infection) and eliminated, but the insoluble matter and salts are flooded from the system, relieving waste-laden blood by such powerful streams of fluid that calculus is not liable to be formed.

For many years I have diluted the urine, increased its volume (consequently, increased ureteral peristalsis), and clarified it by administering eight ounces of one-half or one-quarter normal salt solution, six times daily. I have made sodium chloride tablets (twelve-grain, each with flavor). The patient places on the tongue a half tablet (NaCl), and drinks a glass of water (better hot) before each meal. This is repeated in the middle of the forenoon (ten A. M.), middle of the afternoon (three P. M.), and at bedtime (nine P. M.). The patient thus drinks three pints of (one-quarter to one-half) normal salt solution daily. This practically renders the urine normal, and acts as ample prophylaxis against the formation of urinary, hepatic, pancreatic, fecal calculus, and sewers the body of waste material. The formation of a calculus can not occur when ample fluid bathes the glandular exit canals. In deficient fluid crystals form calculus with facility. The maximum concentrated solution of urine, bile, or pancreatic juice, tends to crystalize with vastly more facility than dilute urine, bile, and pancreatic juice. In "Visceral Drainage" single crystals, on first formation, are rapidly floated with facility when ample fluids are present; while in small quantities of fluid, with weak stream, the crystals tend to lodge, accumulate, and form calculus. Oliguria is a splendid base for calculus formation.

If parenchymatous nephritis exists, the NaCl should not be administered, as it excessively stimulates the renal parenchymatous cells. In such cases administer the water only.

For over ten years I have been using sodium chloride tablets, more or less, in my practice. During that time some practical clinical views have been gained, and repeated so frequently that they have become established, I think, beyond the shadow of a doubt. The following propositions have been repeatedly demonstrated so many hundreds of times during the last ten years in our clinics and surgical operations, that I shall consider them established until otherwise disproven:

1. Sodium chloride (in one-half to one-quarter normal physiological salt solution) is a powerful stimulant to the renal epithelium (tractus urinarius).

2. Sodium chloride should not be administered in parenchymatous nephritis (not even in food), as it exacerbates and irritates the diseased, inflamed parenchymatous cells.

3. Sodium chloride (in one-half to one-quarter normal physiologic salt solution) is a vigorous stimulant to the epithelium of the tractus intestinalis, inducing fluid to flow into the lumen, stimulating peristalsis, and softening the feces.

4. Sodium chloride increases absorption, secretion, and peristalsis of the tractus intestinalis. It is an excellent remedy to quench thirst after peritonotomy, by copious gradual rectal irrigations (allowing a pint in forty-five minutes to flow over the sigmoid and rectal mucosa).

5. The administration of eight ounces of one-half to one-quarter normal physiologic salt solution (better hot), every two hours, for six times daily, will increase the quantity and clarify the urine, elim-

inate its color, making it appear almost like spring water in three to five days. The feces will be softened, increase in volume, inciting peristalsis.

6. Sodium chloride is a vigorously active stimulant to glandular epithelium (as that of the tractus urinarius, tractus intestinalis, tractus cutis, salivary, heptic and pancreatic glands).

7. The effect of the one-half to one-quarter normal physiological salt solution (six times daily) on the tractus urinarius is to increase the quantity and clarify the urine.

Visceral Drainage by Foods.—To drain the viscera by proper foods may sound paradoxical, but the four grand functions of the tractus intestinalis—peristalsis, absorption, sensation, and secretion—are maintained, practically, by food alone. The appropriate food produces the appropriate degree of peristalsis, and the quantity of intestinal secretions, which is absolutely essential for visceral drainage—and to prevent constipation. The food that will induce proper peristalsis, stimulate sensation (absorption and secretion), is that which leaves a large residue to stimulate the distal bowel, enteron and colon, such as cereals, oils, and vegetables. Peristalsis is necessary for secretion, for, peristalsis massages the secretory glands in the tractus intestinalis, enhancing secretion, *e. g.;* the rational treament of excessive uric acid in the urine consists of administering food that contains elements to produce basic combinations with uric acid, forming urates (usually sodium), which are freely soluble. This will diminish the free uric acid in the urine. Excessive uric acid in the urine is an error in metabolism. The question of diet to determine is: (*a*) What kind of food causes the calculus-producing material in the urine? (*b*) What kind of food influences the solubility of the calculus producing material in the urine?

1. The meat-eater is the individual with the maximum quantity of free uric acid in the urine. Flesh is rich in uric acid. Hence, in excess of uric acid in the urine, flesh (meat, fish and fowl, are all about equal in power to produce uric acid) should be practically excluded, because it increases free uric acid in the urine. Flesh eaters have uric acid stone, vegetarians have phosphate, oxalate stone.

Generally, the subject who suffers from uric acid is a generous liver, liberally consuming meat and highly-seasoned foods, indolent and sedentary persons, and alcoholic indulgers. Thirty-three per cent of uric acid is nitrogen. Uric acid is derived from the nuclei that form a constituent of all cell nuclei, and which are taken in the body as food. Beef bouillon may be administered, because the extract matters in it will scarcely increase the uric acid. A general meat diet largely increases the free uric acid in the urine.

2. The food should contain matters rich in sodium, potassium and ammonium, which will combine as bases with uric acid, producing alkaline urates, which are perfectly soluble in the urine. These typic foods are the vegetables, which not only render the necessary alkalies to reduce and transform the free uric acid into resulting soluble urates, but leave an ample residue to cause active intestinal peristalsis, aiding in the evacuation through the digestive tract. Hence, the patient should consume large, ample quantities of cabbage, cauliflower, beans, peas, radishes, turnips, and spinach, in order that the sodium, potassium, and ammonium existing in the vegetables may combine, as bases, with free uric acid in the urine, producing soluble urates, thus diminishing free uric acid. A vegetable diet diminishes the free uric acid in the urine thirty-five per cent less than a meat diet. Again the administration of eggs and milk (lactoalbumin) limits the production of uric acid. The most rational advice is to order the subject to live on a mixed diet, consuming the most of that kind of food which lessens the uric acid in the urine—vegetables.

If the appropriate food is so valuable in "Visceral Drainage" treatment of the typical uric acid subject, the appropriate food selected for subjects of biliary and pancreatic calculus, will be relatively as useful. The foods that make soluble basic salts with secretions, should be selected. Besides, the selection of appropriate food is frequently amply sufficient to drain the intestinal tract to prevent constipation.

It is true, foods alone are not a complete substitute for fluids, but vast aid in visceral drainage may be accomplished by administering food containing considerable indigestible matter, so that a large fecal residue, saturated with fluid, will stimulate the intestines, especially the colon, to continuous vigorous activity, maintaining the maximum action of the four grand functions—peristalsis, absorption, sensation, and secretion. For many years I have treated subjects with excess of uric acid in the urine by administering an alkaline laxative tablet in fluid. The tablet is composed of: Cascara sagrada, one-fortieth of a grain; $NaHCO_2$, one grain; socotrine aloes, one-third grain; $KHCO_3$, one-third grain; $MgSO_4$, two grains. The tablet is used as follows: One-sixth to one tablet (or more, as required, to move the bowels once daily) is placed on the tongue before meals, and followed by eight ounces of water (better hot). At ten A. M., three P. M., and bedtime, one-sixth to one tablet is placed on the tongue, and followed by a glassful of fluid. In the combined treatment the sodium chloride tablet and alkaline tablet are both placed on the tongue together. This method of treatment furnishes alkaline bases (sodium and potassium and ammonium) to combine with the free uric acid in the urine, producing perfectly soluble alkaline urates, and materially diminishing the free uric acid. Besides, the alkaline laxative tablet increases the peristalsis absorption, sensation and secretion of the intestinal tract, aiding evacuation. I have termed the sodium chloride and the alkaline laxative method "the visceral drainage treatment." The alkaline and sodium chloride tablets take the place of the so-called mineral waters. Our internes have discovered that on entering the hospital the patient's urine presents numerous crystals under the microscope. However, after following the "visceral drainage treatment" for a few days, crystals can not again be found. The hope of removing a formed localized ureteral, or other calculus, lies in securing vigorous ureteral, or other duct peristalsis with a powerful ureteral or other duct stream, aided by systematic massage over the psoas muscle and per vaginam. Subjects afflicted with excess of uric acid in the urine, or other form of calculus, need not make extended sojourns to watering places, nor waste their time at mineral springs, nor tarry to drink the hissing Sprudel, for they can be treated successfully in a cottage, or in a palace. The treatment of a uric acid or other calculus consists, therefore, in the regulation of food and water. It is dietetic. The control, relief and prophylaxis of uric acid diathesis or tendency to other calculus formation, is a lifelong process. When the uric acid or other calculus has passed spontaneously the patient does not end his treatment, but should pursue a constant systematic method of drinking ample fluids at regular intervals, and eat food which contains bases to combine with the free uric acid or other compounds producing soluble urates or other soluble compounds.

I continue this treatment for weeks, months, and the results are remarkably successful. The urine becomes clarified, like spring water, and increased in quantity. The tractus intestinalis becomes freely evacuated regularly daily. The blood is relieved of waste-laden and irritating material. The tractus cutis eliminate freely, and the skin becomes normal. The appetite increases, the sleep becomes improved, the feelings become hopeful. The sewers of the body are well-drained and flushed.

Chronic constipation is compensatory, for, during this condition a greater portion of the food ingested undergoes digestion and absorption than in the normal individual, and, consequently, the fecal residue is more limited. By reason of the fecal residue there is less material, and a less favorable medium for the development of bacteria, in consequence of which less irritating products occur, on which the stimulus to the required peristalsis, more or less, depends. The varying pressure of the abdominal walls on the viscera modifies the viscera circulation in quantity and rapidity. The visceral vessels, especially the abdominal, constitute a kind of hæmogenous reservoir for surplus of blood, by which general blood pressure may be regulated among viscera.

The dilatation of abdominal visceral vessels may be so great that cerebral anemia may advance to a state of syncope, collapse, or shock. We may yet learn to apply Bier's congestion, or blood controlling methods, to cure constipation by practicing on the sphincters. Abdominal visceral circulation must not only be controlled for maximum digestion (which is normal absorption, secretion, sensation, and peristalsis of the enteron), but also for maximum colon peristalsis, which is required for normal evacuation. We know that mental or physical excitement at meals modifies digestion (which means modification of circulation). Dilatation of the blood vessels in the splanchnic area lowers the blood pressure, increases rate, rhythm, and force of pulse. Maximum circulation abdominal organs conducts maximum absorption, secretion, sensation, and peristalsis. Pathologic increase of circulation in the abdominal viscera leads to corresponding activity of unction. This lends a clue to treat constipation. Increased secretion of the glands of the tractus intestinalis, in consequence of nervous influence, is well known (which refers to circulation).

Visceral congestion (chronic) leads to relaxation of visceral supports. Interruption of circulation (anemia) leads to visceral spasm, colic. Spasm of the muscle of the digestive apparatus produces colic. There can be slight doubt, clinically, that spasmodic (anemic) constipation occurs—*e. g.*, lead or (anemic) colic. In the practice of medicine the vascular area governed by the splanchnics will be more utilized in therapeutics. For example, the headaches, dizziness, faintness, syncope, vertigo, which appear and disappear suddenly without sufficient time for autointoxication infections are likely to produce circulatory changes in the splanchnic and producing cerebral anemia. So, also, cold hands and feet, aching pains in limbs, neuralgic pains in various bodily regions, may be due to excessive tendency of blood to the splanchnic area. Irritation of the nerves of the splanchnic vessels are transmitted to distant regions, leading to spasms (anemia, ischemia) of vessels, and pain, cramps in muscles. This may explain the frequent colic cramps, of neurotic subjects.

Circulatory disturbances in the tractus intestinalis should not be mistaken for: (*a*) Mechanical irritation from coarse food, (*b*) for chemical irritation from ingested irritants (as acids, spices, meats), (*c*) for pathologic physiology as excessive, deficient, or disproportionate secretion and consequent fermentation (microbic). The dilatation of the splanchnic vessels are physiologically opposed to the dilatation of the peripheral vessels, and since the splanchnic vessels are controlled by a nervous mechanism, it may be hoped that a definite therapeutic remedy will appear that will contract, or dilate, these visceral vessels. Since physiologic antagonism exists between the splanchnics and peripheral vessels, agents which dilate the splanchnics contract the peripheral vessels, and *vice versa*. The dilatation of the anal sphincter dilates and flushes the peripheral capillaries with it, contracts the splanchnic vessels. The peripheral vessels may be dilated by mechanical means, as massage, hypertrophy, a hot and cold water chemical irritation, as mustard, turpentine.

Normal evacuations of the tractus intestinalis require an ample stream of fresh blood irrigating the intestinal tract, which is accomplished by administering food with indigestible remnants.

The tendency of the blood stream to any other visceral tract than the intestinal, lessens the peristalsis, absorption, sensation, and secretion, favoring constipation.

In pubertas, menstruation, gestation, or chronic genital inflammation, the circulation tends toward the genitals, robbing the tractus intestinalis of blood, inducing constipation.

In the puerperium the patient should exercise, employ gymnastics, massage the abdominal muscles, ingest foods which have a residue, and limit the enforced rest to a week, in order to restore muscular action and visceral circulation, especially the intestinal.

Chronic inflammation, tumors, irritation on any one visceral tract, tends to unbalance the normal circulation in all other visceral tracts—inducing constipation—hence to improve constipation, remove the disease or disturbance in other visceral tracts.

Any defective segment of the tractus intestinalis (gastrium, enteron, colon) should be repaired, and any defective function (peristalsis, secretion, sensation, and absorption) should be restored.

A subject of one hundred and fifty pounds requires five pints of fluid daily to produce ample visceral circulation (to supply the physiologic demands of the tractus urinarius, tractus cutis, tractus respiratorius, tractus intestinalis).

Vegetables and graham bread (which should contain the flour, shorts and bran) leave ample residue to stimulate the tractus intestinalis, inviting a vigorous circulation.

Rectal injections and colonic irrigation should not be employed frequently, as the rectum may lose its sensitiveness, becoming so blunted in sensibility that it will forget to act when fecal matter is present. Clysters of oil are excellent remedies to soften fecal masses.

Persistent use of galvanic and faradic electricity produces favorable effects on constipation, the electricity energizes the abdominal walls and intestinal muscles. However, I can not report such favorable results as those of C. V. Wild, in his excellent essay, *"Die Verheutung und Behandlung der Chronischen Verstopfung bei Frauen und Madchen."*

Constipation, if pursued by both patient and physician, with favorable will and energy, is practically a curable disease.

100 State Street.

[Written for the MEDICAL BRIEF.]

The Germ Theory.

BY ROBT. L. WATKINS, M. D.,
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To-day the public believe that germs exist only in the air, and they are being systematically educated to this effect. They are being so impregnated with the idea that some of our mildest diseases are infectious that it is hard to tell where this present germ theory will end. They are allowed to believe that the term infectious means contagious, and this term contagious depends on the discovery of the specific germ for the malady in question. Therefore, a disease to be infectious or contagious, must have a germ as its cause, and *vice versa.*

Micro-organisms are a part of the earth; they have existed ever since the world began. It is from them that man was evolved. The accepted germ theory of to-day says that the germ produces disease, and not that the germ evolves into the man, as well as in the man, and by this internal evolution—this activity—micro-organisms, or the germs of disease, are produced. The air-born germs are all in their infancy, round in shape, and grow from the cocci to the bacillus and mycelium, or other forms, if allowed to mature in their natural habitat. It is said if infants or puppies are fed on alcohol, it stunts their growth, and the same applies to germs, when fed on artificial media.

This word "germ" is on the lips of every man, woman and child, and anything connected with germs, everyone thinks, means contagion. If some of these mild diseases are infectious, where does health come in? If diphtheria has a period of incubation of eight days, what is the period of incubation of tuberculosis? What is the period of incubation of a nervous disease, the specific germ of which has, or has not, yet been discovered? I ask these questions of the believer of the fads and fancies of the present-day germ hypothesis. For if a disease is contagious it must, in order to be logical, have a period of incubation.

"Dust thou art and unto dust shalt thou return," says the Scripture. Man originated from a germ, and he did not exist on this earth until all other germs below him were developed sufficiently to produce a germ like him. Man is composed of billions upon billions of little round cells or germs—healthy germs, contagious germs—contagious of health. They exist in the brain, the lungs, the liver, the kidneys, and all the tissues, and even in the circulating blood. They are so small that it takes at least ten thousand of them, laid side by side, to measure an inch. They enter into the composition of every organ, and it is their activity that produces germs of a pathological nature. They digest and assimilate, and throw off products of a lower nature than them-

selves. It is this excessive activity of devolution that brings man back to dust, from which he was made. The present-day germ theory is a product of devolution, and it is about these devoluting products of the dung-heap over which many physicians have gone insane. It is the fad of the day to build laboratories for the investigation of these refuse products of the dark ages—well enough in their way, but things of the past.

It is about time the pendulum swung the other way, and the living, healthy germs were given some attention. Those whose function it is to produce the contagion of health should be the ones which should be studied, for health is far more contagious than disease; and when this view is taken of the subject, medical research becomes very much more interesting to the world, as well as to the physician, for his duty is to assist nature to build up. Dead germs should be forgotten, and are of use only as landmarks; for a living, healthy germ is, to the physician, as interesting a sight to behold as a living healthy man or woman.

The blood contains germs of all kinds, those of evolution and those of devolution. The original germs which compose man are all round; other shapes develop from them. Who can say of a strange egg, picked up in a field, whether it is capable, when fertilized, of developing into a bird, or a snake, or even a chicken.

These germs in man are so small that they all look alike in the infant stage, but when they develop or evolute, they often, like the tadpole, turn into a frog. And so the microscopical germs of which man is composed are round, and evolute into other shapes, and all for the upbuilding of the healthy man.

[Written for the MEDICAL BRIEF.]

Uremia.

BY M. M. FOY, M. D.,
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Acute uremia is a very serious complication when it develops in the course of some other disease. To the exhaustion entailed by the previous struggle is added the peril of sepsis and the additional labor thrown on the weakened heart. Treatment is so often powerless in the presence of waning vital forces, the doctor feels a sensation akin to despair when he sees what he has to face.

Chronic uremia is a comparatively common condition, unsuspected, in many cases treated for sick headaches, indigestion, heart trouble, etc., and with only temporary benefit because the root of the trouble is not tapped.

Often the kidneys are not damaged structurally, they are merely torpid or erratic in their action, a condition brought about by an imperfect and obstructed circulation.

In the body as elsewhere the law of demand and supply must work smoothly to get good results. If there is a diseased state of the vascular system, if the nerves and centers which govern the circulation —the vasomotor system—is weak and excitable, causing general high tension and spasmodic obstruction to the normal flow of blood through the renal organs, the secreting cells will become demoralized. Scanty secretion will be the rule, alternating at times with a profusion of pale urine of low specific gravity.

The retention in the system of products normally eliminated by the kidneys, results in a feverish nervous state, causes headaches, indigestion, congestions of other organs, and a generally disturbed state of health.

Observing physicians long ago learned the futility of giving stimulating diuretics in uremia. The first work must be accomplished through the circulation. Relax the high tension, equalize the circulation, subdue the excitable vasomotor nerves, thus reducing friction to a minimum and allowing the vital forces a chance to recuperate. Such treatment is intelligent, scientific, productive of results where the trouble has not been going on long enough to seriously damage the vascular system. Of course, where arteriosclerosis has taken place, where deposits in the vessel walls have actually occurred, much less can be accomplished by treatment, but before middle life treatment which relieves erethism, which quiets and sustains an irritable vasomotor nervous system, will regulate the kidneys and increase their depurative power. At the same time such treatment will have a

generally beneficial influence over the health, relieving the congestions, pains and aches resulting from deranged circulation and innervation.

Patients will tell you: "Doctor, since my kidneys began to act better, I am not so nervous, and my heart does not trouble me so much. My head does not ache so often, either, and it is not such hard work to get to sleep."

Suspect uremia, doctor, and test for it, when you get hold of one of these patients with restless, feverishly bright eyes, nervous manner, troubled with insomnia, neuralgic pains and aches, irritable stomach, full, quick pulse. A diuretic of moderate power, which at the same time exercises a sedative and tonic action on the vascular system, will produce very satisfactory results, and if you can get your patients to follow your instructions closely in the matters of diet, exercise, etc., any tendency to arterio-sclerosis may be held in check.

[Written for the MEDICAL BRIEF.]

Homeopathy vs. Allopathy.

BY N. SISCA, M. D.,
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I.

With a kindness, for which I desire to express my sincere gratitude and with a broad-mindedness for which he deserves the unstinted admiration of all right-thinking members of the profession, the Editor of the MEDICAL BRIEF has consented to publish the few following notes on what I believe to be a subject of much importance to allopathic practitioners everywhere, more especially in the United States and all other English-speaking countries, viz., the "Controversy between homeopathy and allopathy."

Much as many of us may be unwilling to admit it, and contrary to the stereotyped statements by which a large section of the allopathic press endeavor to lull us into apathy, to the effect that homeopathy is dead, homeopathy is exploded and discredited, etc., etc., it is nevertheless a fact that homeopathy is slowly but steadily progressing. At the beginning of last century it had only one representative, namely Hahnemann himself, but now has adherents all over the world. The number of homeopathic practitioners, hospitals, dispensaries, etc., is continually increasing, and the section of the public who prefer to have their ailments treated by homeopaths (and, let it remain *entre nous*, do not seem to regret it) is becoming larger every year; while the controversy between the two schools, which most, if not all, allopathic journals either affect to ignore or else dismiss with a few sneering remarks, is vigorously and unabatingly kept up by the homeopaths in periodicals, books and pamphlets, a good many of which are constantly and freely circulated among their adherents and sympathizers. I feel sure I need not remind the readers of this journal that there are now in the United States alone about twenty thousand homeopathic practitioners, with between twenty and thirty homeopathic colleges officially recognized and empowered to grant degrees to their students, eighty-five general hospitals, sixty-seven special hospitals, nine national societies, thirty-three State societies, forty-two medical clubs, thirty medical journals, and fifty-eight dispensaries. But what, in my opinion, is certainly advisable that allopaths in America and elsewhere should be reminded of is, that for every homeopath who is consulted there must perforce be an allopath who is not wanted. And this naturally brings us face to face with the very pertinent question: What are we doing to safeguard our interests and our position? Let me not be misunderstood. I should be very sorry to say a single word which may have even the appearance of animosity or hostility against homeopaths. I have reason to know that by far the largest majority of them are neither unfair nor unscrupulous adversaries, but they undoubtedly are our competitors, and whilst on the one hand we have no right to find fault with them for legally competing with us, on the other we certainly cannot be blamed if we look after our own interests.

Unfortunately for us, however, compared to the untiring energy of the other side, the part we are taking in the competition is far from being what it should be. In fact, all we are doing in this important matter is simply to sleep

on our laurels, the laurels being represented by the fact that rightly or wrongly we are what the homeopaths are wont to call the "dominant school," and that, therefore, nothing can harm us. Consequently, many of us are pretty often found doing what we should not, that is, pooh-poohing homeopathy without even knowing the meaning of the word, and determinedly leaving undone the very thing we certainly should do, that is, to learn for ourselves what homeopathy means, and what it is.

What? Study homeopathy? Yes. The time has come when, if we persist in ignoring homeopathy, we will do so at our own peril.

And that is why, as an allopath, who in a practice of over twenty years, has found time to make himself fairly well acquainted with most, if not all, the pros and cons in connection with homeopathy. I am only too glad to be able to place before the readers of the MEDICAL BRIEF a concise but clear and accurate statement of its fundamental principle and of its practice, followed by a brief outline of comparative *materia medica* and therapeutics. Coming, as they do, from an allopath, I venture to hope that the following notes will be read without suspicion of bias or *ex-parte* proclivities, and that thus they may fulfil the only purpose for which they are written, namely, that as many allopaths as this journal will reach may have their eyes opened, and be led to acknowledge that for the sake of our patients, as well as for that of safeguarding our position, homeopathy is worth studying, because there is much in it that is worth knowing.

II.

The founder, not the discoverer, of homeopathy was Samuel Hahnemann, who was born at Meissen, in Saxony, in 1755, and whose eventful life ended in Paris in April, 1843. His remains were interred in the Montmartre cemetery, and left there without a name until they were exhumed in 1898, and removed to the Pere la Chaise cemetery, where a monument was dedicated to his memory.

In giving a studiously short account of the proceedings at the dedication of that monument, a writer in a London medical periodical thus concluded his remarks: "It is a pity that his bones were not allowed to rest unwept, unhonored and unsung, considering that his tenets and practices are today almost as dead as the apostle himself." Writing as an allopath I confess to a sense of shame and humiliation at the thought of a medical journal stooping so low as to publish such bitter and contemptuous remarks of a dead man, whose "tenets and practices" we may not accept, but whose memory we should respect, if for nothing else, at least for his courage in proclaiming his honest convictions in the face not only of scorn and ridicule, but also of relentless persecution. It is worse than foolish to think that we can blot out a man's name from the pages of history when that man has been a maker of history. Hahnemann did not discover the so-called "law of similars," which in its embryonic form was known to others long before him. We find, in fact, the principle enunciated by Hippocrates, who wrote: "That which produces a strangury where it did not exist, cures an existent strangury; that which produces cough and fever where they did not exist cures existent cough and fever." What Hahnemann did was to rediscover the principle, to study and elaborate it, to give it the impress of a scientific rule, and to found on it the therapeutical system which is called homeopathy. Even disregarding, if we wish, the fact that Hahnemann was a great scholar, an accomplished linguist, and a philosopher of no mean order for the time in which he lived, shall we so forget ourselves and our social position as members of the noblest profession in life, as to heap contempt and contumely on his memory, merely because his "tenets and practices" do not agree with ours? Or shall we not, rather manly and nobly honor his memory as that of the man who has done for medicine more than any other ever did? We look in vain through the nineteenth century for a man whose work in the field of therapeutics could be compared in its importance to Hahnemann's until we come to Pasteur. And yet, if homeopathy should prove to be what homeopaths maintain that it is, even Pasteur's work appears small in comparison with

the magnitude of a general system of therapeutics.

Be that, however, as it may, it is very interesting to know what it was that led to the rediscovery and consequent promulgation of what might be called the soul and spirit of homeopathy. Somewhere about 1790 Hahnemann was translating Cullen's Materia Medica into German, when, having reached the article on cinchona, he found that he could not agree with Cullen's explanation of the febrifuge properties of the now twice famous bark. For the sake of experiment he took four drachms of good cinchona twice a day, with the result that not long after his feet, the tips of his fingers, etc., first became cold, and he felt tired and sleepy; then his heart began to beat, his pulse became quick and hard; felt uneasy; trembled, but without rigor; weariness in the limbs, beating in the head, red cheeks, thirst, in short, all the symptoms of ague without the rigor. This happened every time he repeated the dose, and on leaving it off it never occurred again. Here, then, is what homeopathic writers are fond of calling Newton's apple of homeopathy; and as a further step in the field of investigation we learn that Hahnemann began to collect the different morbid phenomena which other observers had from time to time noticed as produced by medicines. But as the number of these was not great, he began to "prove" drugs on the healthy body, when, lo and behold! "the symptoms they produced on the healthy corresponded wonderfully with the symptoms of the morbid states they would easily and permanently cure."

And here we might well say: *Siste viator*, because here we have the genesis of homeopathy as well as of the fundamental principle which governs it, namely, *similia similibus curentur*. But as the latinity of this principle, as well as the philosophical definition of it, have, strange to say, been a source of much acrimony between the homeopaths themselves, for the sake of information I will just refer to them.

The first controversy among homeopathic writers was whether the principle, as enunciated by Hahnemann, was *similia similibus curantur* or *curentur;* and I am glad to say that the more sober-minded among them have succeeded in establishing that it is *curentur*. This gives the principle its proper character of a precept, rather than *curantur*, which would simply be absurd, as it would give the principle the tone and the authority of an universal and infallible dogma.

The other controversy was whether the enunciated principle is to be called the law or the rule of simdlars. But on this, unanimity is yet a thing of the future.

(To be continued.)

[Written for the MEDICAL BRIEF.]

Desire and Necessity.

BY AXEL EMIL GIBSON, M. D.,
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The mental movement which, under the name of "New Thought," sweeps through our present society and literature, has conferred on personal desire the moral sanction of a force, instrumental and essential, in the ethical and spiritual evolution of humanity.

The basis on which the exponent of the "New Thought" rears his argument lies in his appreciation of desire as the ever-present expression of a motor power which, in the action of a "will to live," constitutes the driving and ensouling essence of universal evolution. Now, if a "desire-force" is thus postulated to operate within the very heart and center of universal evolution, it would naturally be a matter of simple logic to appreciate such a force as the supreme agent and guiding genius in every aspect and condition of individual existence.

But does the fact of a force being universal entitle an individual to utilize it for the attainment of personal ends? Does the employment, for instance, of dynamite in public works, mean a concession for every child or inexperienced individual to use this dangerous agent as a means of gratifying either a morbid, unreasoning curiosity, or a criminal intent? For what constitutes the difference between desire as a universal force, and desire as a personal force, but the presence in the former and nonpresence in the latter of

knowledge as to end, and purity as to motive, of its nature and meaning. For while the very existence and progression of the universe necessitates that its "desire-force" be governed by unerring wisdom, we find constantly that the individual, in dealing with his own desires, in place of being the governor is mostly the governed.

Being an expression of blind, intellectual or sensuous impulse, and depending for its light on the conditioned, ever-unreliable perception of the senses, the personal "desire-force" must necessarily fail in its guaranties the moment it ignores the supersensuous and nonconditioned mandates of conscience and duty. Speculation and theorizing receive their unstable and unreliable character just by virtue of their dependence on appearances for working material; while truth follows laws and modes of manifestation all its own, and strikes us with its light mostly unexpected. The dramatic strength of Shakespeare has its basis in his discernment of this central fact—in his arrangement of his characters in movements and situations wholly unexpected, and often seemingly disconnected from their natural and logical order of life. Yet, however, as logic merely represents the chain of unfoldment, connecting one group of sense-perception with another, and hence has value and meaning only as a measurement of given quantities, it follows that things and events are unexpected and unforeseen only when judged from the insecure position of personality, with its circumscribed range of sensuous observation, just as the lines of a railway converge into a vanishing point of extension, not because of any progressive change in their inherent parallelism, but because of the powerlessness of human vision to pursue its notations, independent of conditioning and limiting environments. In a corresponding way the tracks of events are not less definite and law-governed because they may pass beyond the horizon of ordinary mental vision. And, furthermore, as it is personal desire which lies back of this trackless and guideless speculation on the unknown and unperceived, it follows that it is in spite of, and not because of, this desire that we advance; while, on the other hand, it is by the sheer force of necessity that we now and then are compelled to surrender our theories and return to the concrete and commonsense paths of life. Realizing this failure of the speculative intellect to solve by itself the problem of life, Herbert Spencer, who has been called the philosopher of evolution, found in "philosophic calm and philanthropic energy the only ultimately safe course to pursue for the attainment of moral and social progress."

In his cruise on the high-seas of life, and while continually exposed to the fitful storms of desires and passions, the individual will find in his appreciation of duty and conscience the only unerring compass needle capable of pointing out to him his true course. For, back of all the annoying and hampering anxieties of life is to be found a lack of duty, coupled with an insatiable desire to turn the fruits of general culture into objects of personal possession. Thus, the fear of personal loss, the disappointment in hopes, and the failure of realization—all spring from the self-same source, the strain and struggle of an individual for powers not evolutionally due to him. For desire is ignorance of law, faithlessness to destiny, and irresponsiveness to humanizing motives.

Desire is related to necessity as personal will to universal will, and with universal will is meant that ever-active, ever-present power which compels every receptive entity of evolution to growth and self-conscious unfoldment. Hence, as our knowledge has its source in the universal will, it naturally follows that personal, self-dependent sense-gauged plans of action isolates the individual from the intuitive influence of this will, leaving him blind to the ultimate meaning and intention of his existence. For, is it not true that existence, throughout its entire sliding scale of phenomena, constitutes one stupendous maze of mystery, appearing, disappearing and reappearing in response to unseen, unknown and unsuspected forces, whose genesis and character can only be subject to more or less clever guesswork; and, while a keen and forceful intellect may succeed in pushing backward the veil of destiny, the veil still remains a veil, and the threshold of the

future still remains guarded by the old sphinx, as implacable and impenetrable as ever. Hence, intellect, with its motor-power in desire, must forever remain inadequate to grapple with the real problem of existence. Progress is not merely a movement forward, but upwards; and intellect, like the moon, pursues its motion with only one of its sides turned toward the light.

As we develop in the direction of our motives and draw strength from the character of our thoughts, it follows that desire, with its natural center and source in the personality, is destined to revolve within the narrow sphere of its sense-fed intellect, while remaining oblivious to what constitutes the only true course of knowledge. For desire, in its last analysis, means the effort in thought or action, to introduce changes in the universal order of things, with a view of gratifying a wholly personal impulse. Yet the intelligence of a desire-governed personality is to the intelligence of a divinely-governed universe what a machinist in the interior of a trans-Atlantic liner is to its commander-in-chief; from which must follow that every movement of the individual, if not directed by the mandates of that superior insight contained in the impulses of conscience and duty, must be more or less in opposition to general progress.

For what is an individual but some kind of an operative, employed in the workshop of universal evolution, and trusted with the performance of special and unmistakable duties? The supervising and instructing intelligence which is always at his side, answering every question and pointing out every detail of the work to be done or undone, is the genius of his higher nature, the voice of conscience.

Being the guiding principle of existence, conscience arises from the very source and center of self-conscious intelligence. Its power, however, to formulate our judgment depends upon the moral attitude of the individual, and on the extent he trusts in its power. For, like every other function, conscience develops by usage and retrogrades by non-usage. Hence, the resolute, undeviating attitude of a mind to place itself *en rapport* with the purpose and motive of the divine will of the universe, will charge the individual with positive, unerring knowledge as to the ultimate meaning and destiny of life; while an opposite attitude, the indifference to the injunction of "the still, small voice," must inevitably lead to a diminishing of its impressive force, with a corresponding weakening of its value as counselor and guardian.

We expand in the direction of our motives and draw strength from the object of our faith. Hence, if the motive of an individual be personal, its pursuit leads him into the ever-narrowing circuit of sense-bound self-sufficiency, with its deadening lapse into mental isolation, and subsequent decay. As a life-threatening tumor, after finding itself excluded from the general circulation of the body proceeds to establish a circulation of its own, while at the same time corrupted by its isolation, spreads infection and pollution to every tissue with which it comes in touch; so, likewise, the mind of the selfish individual, isolated from the spiritual life of the universe, starts a process of disintegration and self-destruction, while in its very process of dissolution it diffuses the loathsome, decaying elements of its nature to every entity subject to its influence. Hence desire, by its very self-sufficiency and self-seeking, isolates the mind from its universal connections, starting a career which, if unchecked, must terminate into final dissolution.

The philosophy of desire is found in the dual attitude of the mind of fearing either to be overtaken by an evil not deserved, or the inability to overtake a good which is deserved. And as fear, in its turn, can arise only at a point where faith in an ever-present, ever-active justice is weakened or lacking, and, furthermore, as the lack of such faith has its explanation in ignorance of the true meaning of life, it follows that the presence of desire as active personal force signifies a crude and undeveloped state of moral and spiritual evolution. True faith is a sense of unconquerable power, born by a realization of being a conscious exponent of the unerring, resistless laws of the universe. Now, as a fruit is the biological fulfillment of a blossom, and the latter the natural, self-adjusted unfoldment of its primogenitor—the bud, so the individual

with all his genius or stupidity, beauty or ugliness, virtue or vice, etc., is the logical and inevitable unfoldment of a cause into its appropriate effect. If responsive and obedient to the laws of growth, which, in other words, means the will of God, the individual can no more fail to become strong, harmonious, wise, and true, than a rosebud, if left to the action of the laws of its own nature, can fail to become a rose.

Hence, man needs to harbor no fears or anxieties as to the attainment of his destined qualities and powers. To do "the will of the Father" is the formula and adjusting principle back of all progressive life. Complying to this principle, the position of the soul becomes eternal and sure. Its progress becomes one with the progression of the cosmic will-impulse, which, on its ever-moving waves of rhythmic energy float the whole contents of phenomenal existence, moving with the same frictionless and unerring safety the red blood-corpuscle in the blood stream, and the monster orbs that throng in orderly courses the infinitudes of space. This guaranty for continued progress, however, is forfeited the moment the individual under the impulse of desire separates his personal interests from the interest of the great, cosmic life, and, like a straw in an eddy, proceeds to course around in its own little isolated circuit of unproductive, purposeless motion.

A force often mistaken for desire, though in principle directly opposed to it, is found in intuition. Now, the latter is that living cosmic intelligence which spontaneously and inevitable arises in the soul in the course of its faithful obedience to the mandates of conscience and duty; while desire, on the other hand, is the personally generated and conducted force which, by deflecting the mind from the guiding influence of spiritual gravity, renders its recognition and appreciation of intuition impossible. Notwithstanding the altogether irreconcilable difference between intuition and desire, the entities governed by the latter are often under the impression that their movements are inspired by intuition. The criterion, however, which infallibly defines the true position of the soul, lies in an examination of the motives determining the action. If the motive lies in the self-conscious subordination of personal interests to universal, inter-human interests, the position of the soul is safe, and the intelligence manifested in its judgment of the intuitive order.

Intuition, which acts in terms of necessity, is to the soul what the flower is to the plant—the culmination of every power and virtue of the evolving entity; while desire is the impatient, anxious, self-seeking struggle after the attainment of a flowerage not yet biologically due. Intuition issues its demands on a basis of inter-human, self-forgetting interests; desire bases its claims on the strength of opportunity and self-gratification. Intuition stands for true need, desire for craving; intuition for necessity, desire for luxury. Intuition is the imperative, involuntary, irresistibly urging demand of life in the individual, while desire is the imposed, morally and spiritually illegitimate demand on life by the individual.

For intuition, of which genius is a living manifestation, is the receptivity of the ego to the higher and purer elements of universal life. In its interpretation of nature, intuition evolves art; interpreting humanity it evolves altruism and brotherhood. While desire, in its attempt to interpret nature, produces nothing but luxury, and in its interpretation of humanity gives rise to passion, lust, personal ambition and self-love in all its forms of brutality and egoism.

In the grasp of true genius, either in art or love, the man, with his personal ambition dissolved in the greater force of soaring emotions, is rendered choiceless. For the lover, either of man or nature, claims not, but is claimed; moves not, but is moved. Subordinating his whole moral and intellectual nature to the impulses of his intense aspirations, he becomes the culture-ground for highest spiritual life, and a means of its concrete actualization in terms of pure, soulful living. His nature assumes a cosmic character, with an influence penetrating as light, and far-reaching as gravitation. His judgment becomes unerring as destiny, his will frictionless as a nature law, and, finally—in contradistinction to the man governed by desire, who aims at the establishing of a kingdom of earth in heaven—the man in-

spired by love aims at establishing a kingdom of heaven upon earth.

Necessity, the frictionless expression of the divine will in human nature, recognizes life and its manifold operations as means, while personal desire regards them as ends, and sufficient in themselves. In the light of necessity, eating, drinking, science, art, or any form of nature or culture, have no moral legitimacy as independent self-sustaining ends, but receive value and meaning only in the measure they serve towards the attainment of universal ends. For only to the extent we turn our efforts and accomplishments into means of progress—into "stepping stones of our dead selves to higher things"—do we become part and partakers of progress ourselves. The moment our endeavors—however elevating and worthy in themselves—are made to serve personal ends, the progressive element of the action is lost. Art for art's sake closes the gate for any further advance of the artist, who, in place of keeping his equation open for an interminable progression in decimal values, hurries his fraction into an arbitrary terminus, so as to insure immediately-pleasing results. Art for art's sake, by being isolated through its motive from the source and power of the greater life, exhausts itself into degenerating self-gratification; while art for humanity's sake, for the sake of universal progress, connects its devotee with the great cosmic reservoir of life and power, making of him a shareholder and integral part of the very life itself, with all its infinite possibilities of human genius. Art for art's sake sinks into luxury and mere decorative value; philosophy for philosophy's sake descends into intellectualism and gross materialism; while love itself, if conceived for its own sake, with personal gratification as its end, will degrade itself into servitude of passion and desire.

All the difference between passion and love lies just in this quality of personality acting as breaking point between the contrasting elements of desire and necessity. For, as passion stands for desire, so love stands for necessity. Passion is controllable, love is incontrollable; in the former, love is lost in the lover; in the latter, the lover is lost in his love. Desire gathers and absorbs, love scatters and radiates. Love directs us, desire is directed by us. Love is eternal and ungenerate, using us as vehicles for its humanizing holiness; while desire is generated by selfishness and uses us for sensuous and personal gratifications.

For, after all, desire in its final analysis, has its object and determining motive in the personal self and its gratification. Even if its ostensible character may aim at a general good, the desiring mind starts its operations with a personal end in view, and has in the personal self and its direct, or indirect gratification, a center of action in which every motive, consciously or unconsciously, is rooted.

Moved by necessity, *i. e.*, expressing the best, the truest and strongest in his nature, the individual can not fail to accomplish the object of his existence. As a bud, if permitted to respond to the evolutionary impulse, will inevitably evolve into the rose of which its nature prophesies, so the individual, with no less certainty, will unfold whatever powers of genius, virtue, love, intuition, courage, devotion, etc., present in his mind as germinal possibilities. As life contains all the business of the individual is to choose and receive. As the bow of the player, in sweeping across the strings of his violin, elicits such tones and chords as the nature of the strings are capable of giving rise to, so the waves of universal life, throbbing through the creatures of evolution—be they plant or beast or man—bring into view and action just such qualities, characteristics and virtues as their respective natures can yield. Man is an Apollo harp, on which every mode or motive contained in the great life may find a soundingboard and means of expression. Hence, the truth—scientifically, philosophically, spiritually—of the classic maxim: "He that lives the life"—*i. e.*, responds to its divine elements—"shall know the doctrine."

But we can be receptive to truth only to the extent we are impervious to evil, which again means unceasing vigilance in judiciously utilizing the recurring opportunities of choice. In the passive attitude—if judiciously chosen—may lie more opportunity to progress than in activity, if untimely and inadvertently applied. "Frenchmen," said Mirabeau to the revo-

lutionists, "Save your energy, you will reach your object safer by refusing to do!" Evolution is not monopolar, but bipolar. Its one pole is to give—the active or positive; the other is to receive—the passive or negative. To reverse this polarity, *i. e.*, to be positive (demanding) in receiving while negative (indifferent) in giving, means to be faithless to life, and refractory to the evolutionary current. The secret and philosophy back of all true growth lies in remaining open to the good, and closed up to the evil; to constitute a living prism of self-conscious intelligence, on the one hand receiving the divine light of truth and, on the other, diffusing it into the hearts and minds of humanity.

Doubting the efficacy of nature to adjust the mental, moral and physical economy of the universe, the man of desire, lest he should be forgotten, rushes with delirious anxiety and ambition to fashion the world and its creatures to suit his own notions of what constitutes evolution and progress. But, while nature, with equal guaranty and tenderness, supports her tiniest creatures and the rocky masses that float in intangible space, she, at the same time, with no less implacable rigor, maintains the integrity of her dominion against the disturbing influence of individual selfishness. The defeat of personal ambition is thus inevitable. The nervous gardener securing measurements day by day of the roots and tendrils of his plants, in order to ascertain the rate of their growth, would by his very anxiety arrest the unfoldment of the plants, and thus utterly defeat his object. Likewise, personal desire, with its ambitious straining for self-advancement, causes rupture of integral, constitutional, and etiological relations, resulting in a disseverance of the inner man from his moral and spiritual support. Thus, torn loose from his vital moorings, he gradually deserts his own legitimate field of duty to invade that of others, with which he has neither the right nor the understanding to deal.

The strife for power manifests in manifold ways. Thus, we have the physical, purely brutal ambition of an athlete to exert control over his fellow-beings by means of abnormally-developed flexors and extensors. Absorbed in this ambition, he turns every opportunity of his life to yield to its gratification, and builds up his body under the guiding impulse of self-love and egotism. As the stones of the Temple of Philadelphus, in old Greece, once moved and fashioned themselves into a beautiful structure under the witchcraft of Orpheus' lyre, so the molecules that constitute our physical bodies are gauged in their movement by the impulses of our thoughts and emotions. Now, if the molecular activities that give form and character to the body be not impelled by the motive power of universal interest and human sympathy, which alone can give sanction to any form and expression of life, it follows that physical culture, with its aim in the mere gratification of personal vanity—no matter the apparent triumph of casual attainment—will, as final result, inevitably court dissolution and ruin. The molecular combinations having not been welded on the forge of universal evolution by the cementing power of an all-embracing vital purpose, under the fashioning guidance of the divine will, but grabbed and fused together by the craving, stealthy, self-seeking impulse of personal desire, and ensouled by the isolating force of a selfish motive, can not escape the action of the disintegrating forces, due to all processes of isolation. True and enduring growth springs from true need, and by true need is meant universal usefulness. Hence, nature has decreed that any attainment aiming at selfish gratification shall defeat itself by its very isolation from the sustaining influence of the larger common life. For, as structural permanence rests on functional efficacy, and as the latter, in its turn, has its root in the harmonic solidarity and interaction of the individual will with the universal or divine will, *i. e.*, necessity, it follows that desire and strife for physical power, if disassociated with motives of general usefulness, must give rise to abnormal structural activity, without being accompanied by a corresponding increase in functional activity. And, as structural permanence is based upon functional permanence, the one-sided development of the latter has neither moral nor physical guaranties.

However, it is not on the physical plane that the personal desire-force shows its most unfortunate qualities; on the psychic

plane—*par preference* in the hypnotic processes that lie back of mental possession, or psychic control—is found a far greater menace to human progress. For, while the selfish indulgence of the athlete is mostly limited to his own destruction, the gratification of selfish desires on the psycho-mental plane, in the form of hypnotism, wrecks and destroys the mental and moral lives of thousands. What enhances the danger in the athletics on the psychic plane is the subtleness of its forces, and the cover by which the operator is protected in his practices of mental and moral burglary. Hypnotism, the most dangerous of all practices, has its practical significance and moral bearing in the selfish desire of the individual to possess and to control. For its practice means largely the great, universal "desire-force" of nature, employed by man for the furtherance of personal ends.

In our daily experiences we are constantly met by occasions presenting temptations for using this force. In any discussion where the motive-force of persuasion has been shifted from an interest in the triumph of truth to an interest in the triumph of personal ambition, the principle of actual hypnotism is brought into full operation. Henceforth, the verbal exchange forms the least significant part of the argument; the real encounter is psychic, and proceeds on the mental plane where a silent but relentless duel is fought between the opposing minds—no longer for the sake of truth and virtue, but for the sake of personal vanity and egotism. The moment a discussion becomes personal and "heated," its center is shifted from the cause of truth to the cause of ambition and self-interest. It is the presence of this personal desire that lies back of all dissension and discord. Consciously or unconsciously, every individual who permits himself to get "heated" in a discussion is a hypnotist. Blinded by his desire-force, he has lost sight of truth, its meaning and message to humanity, while engaging the best of his energies and soul-powers in the service of what Milton calls the "least erected imp of hell"—the imp of vanity and self-glory. Inflamed by the at once ludicrous and sinister conception that an opinion, because it happens to sway his own mind for a season, must be made the ruling principle of every other mind, he recklessly proceeds to subdue and enslave. He forgets or ignores that the mission of the true reformer is limited to calmly and dispassionately presenting the truth—to sow the seed. The growth of the seed is not the concern of the sower, but must be left to the combined influence of the involved elements, and on the adjusting power back of every process of life and destiny.

In the parable of the sower, the sole duty of the latter is merely to distribute the seeds. The relation between seed and soil, and the subsequent processes of receptivity, response and development, are conducted and adjusted from a high vantage ground of intelligence altogether transcending our own.

As a safeguard against the ravishes of this personal desire-force, with its hypnotic influence, nature has introduced a process of adjustment by which any abnormal and life-threatening movement ultimately defeats itself. Similar to the forces at work in an atmospheric storm, personal desire is generated by a rupture in original elementary relations. And, as the cessation of an atmospheric storm is due to the neutralizing action of an energy liberated by the very friction of the tumultuous, abnormally active elements in the storm itself, so the desires of the human beings, by their very irrationality, generate a new factor, which, in due time, at the "psychological moment," arises like an avenging Nemesis to arrest the disastrous course of the movement, and hurl back the mental convulsions into their original and law-abiding order of life. Thus, in the very transgression, under the guise of punishment, is born the redeeming genius which shall save man from himself, even at the expense of his personal reputation and social honor.

To escape from the tyranny of desire we must yield to the fatherhood of necessity, and to nothing but necessity. All that is enduring and true in human life has sprung from our yielding to necessity—necessity as representing the movements on which the moral, mental and physical existence of man and the universe depends. Love, virtue, duty, self-renunciation, are forces which stand for necessity in the completeness of human evolution.

Why true genius is oblivious to personal comforts and gratifications lies in the fact that it is ruled by necessity. The man of genius follows the call of the soul, whether it leads him through poverty or riches, through suffering or pleasure. Appreciating occurrences of personal nature as mere incidents in his eternal career, he looks upon the formation of character in himself and others, with its attending flowerage of love, wisdom and power, as the great consuming motive back of every thought, word and act of human existence.

"Our affections and beliefs are wiser than we; the best that is in us is better than we can understand; for it is grounded beyond experience, and guides blindfold, but safe, from one age to another."—*Marcus Aurelius.*

129 South Flower Street.

[Written for the MEDICAL BRIEF.]

Medical Wonders and Medical Blunders—A Story of Facts.

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CHAPTER X.

NATURE AND DISEASE VS. POPULAR FALLACIES —GERMS, MICROBES, FLIES, RATS, CATS, MOSQUITOES AND CONTAGION HAVE NOTHING TO DO WITH THE CAUSE AND SPREAD OF DISEASE.

Of all the questions that have baffled mankind for the past nineteen centuries, the causes of disease and its prevention have been the most difficult to solve. Passion and prejudice have been engendered. False theories, false notions and wrong conceptions, innumerable, have been firmly believed and established, so much so that both the public and the medical profession will, at times, become fiercely fanatical if their views or theories are contradicted by any one.

The cause of the dreadful epidemic disease has especially been one of the darkest mysteries to unfathom. Yet this great mystery is so simple that it will certainly astonish the public and the medical profession when the truth and its simplicity is known and understood.

Nearly all things in nature which have been discovered have turned out to be simple for all practical purposes. Up to the present time nearly all has been a jungle of fanciful assumptions.

In the long past the cause of disease was considered to be due to spirits, devils, Jews, witches, and other such phantasaphiz. The past two centuries, and especially the last quarter, the spreading and causes of diseases are supposed to be due to germs, microbes, flies, rats, cats, mice, mosquitoes, and contagion. There is at least some degree of difference in size between the former and the latter causes. Give credit where credit is due!

The prevention of disease is claimed to be effectually accomplished by vaccination, quarantine, pest houses, germicides, antiseptics, fumigation, horse juice, and the like. If you will but study and investigate this subject, you will be surprised to find that these Medical Wonders are but delusions, the most atrocious ever conceived in ignorance or malice by human brains.

These Medical Wonders are, at present, so firmly established, it seems to me, that it ought to make some of us with tender consciences, at least, feel like getting before a mirror and turning a few somersaults in search for collar buttons.

No one can feel more keenly or be more conscious of the responsibility I take upon myself when I make the bold and unqualified assertion that I have discovered the cause of the epidemic diseases.

I wish to state in the strongest terms that I am sure of my ground. The revolutionary, yet simple, principles of nature here set forth, if put to practical tests, will never fail in a single instance. I say revolutionary, because they are diametrically opposed to the present established theories. Nature's laws do not have the ability to deceive, nor do they sleep, get drunk, or go insane. Nature is always reliable, and medical authorities have never been. Well; there may be much in the statement, "That there is no fool like the educated fool."

Health is only a relative term. The condition of the body is different every hour of the day. The human body is like a barometer, it goes up and down in response to its environments. When this

human barometer rises or falls to a certain degree, it indicates disease. Or put it in other words, each individual is a sick person every night of his life. The difference between going to bed tired and having small-pox, typhoid fever, and many other diseases, is one of degree only. Analyze this sentence. It contains more information in a nutshell than was ever written before in regard to disease.

CHAPTER XI.

THE CAUSES OF EPIDEMICS.

Epidemics are due to two great general causes.

Five words tell it all, the air and our acts.

1. *The Air.*—By the action of the atmospheric conditions, such as cold, damp, hot, impure, stagnant, unelectrified atmosphere, and atmospheric pressure upon various functions of the body.

2. *Our Own Acts.*—By violating the law of balance, what I designate the "Big Four"—sleeping, working, eating and breathing.

These two causes, either singly or combined, are the cause of small-pox, scarlet fever, diphtheria, typhoid fever, measles, yellow fever, cholera, malaria, ague, and many other forms of fever. This is all there is to it. Is it not simplicity itself? Microbes, mosquitoes and contagion as the cause is an inexcusable delusion and assumption.

The effect upon the human body of these two causes is excessive loss of energy, excessive accumulation, excessive production of waste and other products, which combined form certain combinations and conditions we call disease. Sometimes a deficiency in one or more of these products and the excess of others will result in disease. Some diseases have derived their names from the manner in which they manifest themselves. For instance, the conditions manifested in yellow fever, small-pox and scarlet fever have given them their names.

Now the crucial test is, will these principles prove true when practically applied in every single case? They will. I want to emphasize this statement so strongly that it will leave no loop-hole for me to crawl out of. If they do not prove true in every instance, I agree to be beaten at every point.

Then why have we failed, during all this time, to discover this simple truth? It is because we failed to find two of the most important physiological laws of the human body. We fail to recognize the true relation existing between ourselves and our environments. Nature throws the cause of disease at the feet of each individual.

These two physiological laws above alluded to are, first, that from the air we receive the element (oxygen) which circulates the blood; in fact, it is the master of the whole human machinery; second, that no impurities, germs or poisons are taken into the system from our surroundings. (Described in April number.)

To understand the cause of disease and how to prevent it, we must know how to apply these two laws practically. These two physiological corner-stones take the practice of medicine from its present empirical jungle and put it on a solid basis. Then, and only then, the true and honest physician will get the practice. Now about fifty per cent goes to the unethical fakir, forty per cent to the ethical fakir, and ten per cent to the well-meaning physicians.

Is it not one of the most essential things to know what kind of power runs the machine, and where the machine gets its power from? Does it not disturb the machine in just the proportion as the condition of the parts of the machine are in at the particular time the power is lowered, and how much, and what kind of work the machine is performing during the time its motive power is disturbed?

Just so, it is one of the most essential things to know how and where the human machine receives its power, and in what manner it can disturb or obstruct its functions under existing conditions and circumstances. This is the chit and tap-root of the whole subject; it is the cause of epidemic diseases. It is why they spread. The word contagion must be discarded from the English language.

In connection with the above, we have especially to consider the quality and the disproportion of the parts and organs of the human machine. We must also con-

sider the materials that are put through it (food), as well as in what manner they will benefit or disturb the bodily functions. We have failed in the past to find out how this human machine does things in her own way.

When the systemic poisons or waste products become excessive, or accumulate in the glands or other organs, to a certain degree, nature takes the helm in her own hands and forces their elimination by either burning them up, throwing them upon the surface, or kill the patient in the effort.

If the bladder fills up to a certain degree, nature will attempt to relieve it or kill the patient. If the bowels become filled or obstructed nature will, eventually, try to relieve them or kill the patient.

If the skin glands fill up nature attempts to throw it upon the surface or kill the patient. This is nature's way of doing things. It can be easily seen from the foregoing that what we have been in the habit of calling disease is really the cure.

We must first have the strong mental courage to throw off our assumptions and delusions. We must grasp the benevolent design in nature. We must grasp the one fact that nature holds each and every one of us individually responsible for his health. We must think out, work out, and reason out, the fact that we can not take a disease from another person by contagion. Doctor, for heaven's sake and for humanity's sake, get on your thinking cap; not only that, but act vigorously to help stamp out this fraud. It is for your benefit, as well as for the public. If you do not act you must either be blind to the facts or you can not read between the lines what is going to happen in the near future, and mighty near at that.

Did you ever stop to think that the truth needs no ethics, and that the more anything is based upon beliefs and assumptions the stronger it is bound together by ethics. Is it the purpose of ethics to inspire the masses with awe and the importance of the authorities, or is it to cover up their ignorance and make the rest of us keep our mouths shut, or be kicked out? But, let me not be misunderstood, I firmly believe that organization, with true principles and a square deal to all honest physicians and to the public, is most commendable.

CHAPTER XII.

YELLOW FEVER AND ITS CAUSES.

I know of no better way to make the general remarks of our previous chapters more clear than to explain each disease separately.. I will open up this part of the discussion by calling attention to yellow fever, as it is about the season when people in the South become interested in this subject.

In the summer of 1905, during the epidemic of yellow fever in the South, I wrote to the Mayor of New Orleans, stating that I would come down there at my own expense, to explain and demonstrate to him and a few citizens whom he might select, the cause of yellow fever. It being understood that no publicity was to be given unless I satisfied them by practical demonstration the truthfulness of my position. It took three strong letters to even get a reply. In the reply the Mayor said, that they were following the "rules laid down by the United States, the State and city authorities." I answered him by stating, among other things, "that nature's laws did not care a d—m for the United States or the State or city authorities."

Did they demonstrate that a single case was due to mosquitoes? Not one. Nor can they do it. Never was such gross ignorance and graft perpetrated upon the public.

The cause of yellow fever has not only baffled science, but even whole nations, and it is no nearer solution now than centuries ago. Why? Simply because one physiological law was not known and understood, namely, that from the air we receive the power that circulates the blood. In no other disease does this physiological law play such a prominent part as in yellow fever. It is the key to the situation. It is the missing link. For a moment let us follow up the working of this law.

It is estimated that the arterial blood contains about twenty-five per cent of oxygen and that about ten per cent of this is used in combustion and nourish-

ment of the body, leaving fifteen per cent in the venous blood. This establishes a positive and negative condition of the blood, which is absolutely essential to its circulation, and without it it will not circulate. Do not lose sight of this sentence.

When the air in the hot climates becomes reduced in quality and in quantity of its oxygen, it will reduce the arterial blood from twenty-five per cent to, perhaps, fifteen per cent of its oxygen, or even less, and as some eight to ten per cent is necessary for combustion, it leaves but five to eight per cent in the venous circulation. This causes a sluggish circulation, and makes it almost impossible for the venous blood to complete its circuit, it having lost most of its electrical force. Especially does it find difficulty in passing through the liver and performing its part in the important function of this organ. As a consequence of this, the bile is then carried into the circulation and thrown upon the surface of the body, causing the yellow appearance of the patient, from which arises the name yellow fever. When this devitalized condition becomes very low we have what is called black vomit. (Due to venous congestion.)

That this law of the circulation of the blood is true, I have demonstrated upon the living subject. I have also spent years in the South observing and investigating this subject.

The atmospheric conditions are not the whole cause, otherwise all would be annihilated. The health barometer of the individual cuts the important figure.

The reader must bear in mind that the human body is a natural oxidizer. Like the furnace, when the draft is poor we will have a poor fire (or poor oxidation) and more ashes, smoke and klinkers will obtain, and if kept up any length of time will obstruct the chimneys, flues and pipes. Poor fuel and a good draft will make a good fire, while the best of fuel with a poor draft will make a slow fire. Identically so with the human body. If it has not a good air draft and a sufficient supply of oxygen, the fuel or food we eat will not become sufficiently oxidized and, like the furnace, will produce more ashes, smoke and klinkers. In other words, the waste products of the system will be greater, and the elimination will be proportionately less, which will, sooner or later, cause a sluggish condition of the circulation, and obstruction of the vital organs.

The best of food and poor draft will produce disease, while poor food with a good air draft will often maintain health.

This one principle not sufficiently recognized has deceived more intelligent people than any other thing, because in spite of the fact that they keep their surroundings clean and eat the very best of food, they become sick. This is proof enough to them that they caught it somewhere, from someone else, and the doctor sustains this logic.

Oh, how we do like this established theory of contagion. It lets us out easy and lays the blame upon someone else, which is always very gratifying to human nature.

To put it all in one sentence—the difference between the epidemic diseases and health is in degree only.

We have done much in the past, trying to keep our houses and surroundings clean, but we have failed to recognize the most essential factor in preventing yellow fever. That is, to find out how to keep the human house clean.

No two human beings are exactly alike. The constitution, temperament and vitality differ in each individual. Local as well as general conditions differ in every locality. No two eat, drink, work or sleep alike, but the laws of nature, which govern each and every individual, are alike. They differ in degree only. Then what is the remedy?

Knowledge along these lines and education of the public is the remedy. The public must be taught that they can not contract disease from one another, that each individual is responsible for his own health. Each individual must learn how to adapt himself to his environment, vocation and temperament.

Again, any one who will coerce or attempt to prevent another from fulfilling this duty to himself and family should be held responsible. This will strongly affect the relation of employers towards their employees and will do away with the forced condition in which the laborer is often placed, whereby he must either

starve or be forced to endure conditions which greatly assist in developing the systemic condition called disease.

It will also be a strong warning to those who live to eat instead of only eating to live. When we furnish the body with more fuel than it needs, no matter how well selected, it overtaxes the bodily functions just that much more, and produces that much more ashes, smoke and klinkers to help clog up the flues, chimneys and pipes of the human furnace. Overproduction of this waste matter by overworking, insufficient sleep, etc., will have a similar effect. Then if the atmospheric condition should become unfavorable to an individual in such a condition and thereby assist in preventing the elimination of the ashes, smoke and klinkers from his system, who, let me ask, is going to be the first to come down with yellow fever? It is easy to guess, as is also those who are next to follow. This law also explains how disease often spreads through a whole family.

Nature does not recognize any such conditions called disease. Organization and disorganization under different conditions is her method and law in everything. Whether animal, vegetable or mineral, nature has but one method.

We go to bed sick and should get up well in the morning. But is there one person in ten who does this? I doubt if there is one in fifty.

This process of physical bookkeeping should be so maintained that our physical account should be balanced every morning. How to keep this balance-sheet and prevent yellow fever is the all-important problem.

CHAPTER XIII.

THE PREVENTION OF YELLOW FEVER.

What better can a "big crank" do for the Southern people than to turn out for them the cause and prevention of yellow fever.

To prevent yellow fever sums itself to one great proposition—the understanding and the proper application of the natural laws and principles laid down in previous chapters, so that each individual can apply them to his welfare.

No health officer, doctor, or rules, such as are now laid down by "the United States, the State or city authorities," can do it for you. At best, they can only teach the public after they learn how themselves. Nature does not care a d—m for anybody. Her laws are unchangeable. You must bow to them, they will not bow to you.

Remember, that the conditions of the air, unelectrified, or otherwise, and its effect upon the circulation of the blood, plays the prominent part in the yellow fever epidemics, and second, the condition the human house is in during these unfavorable atmospheric conditions.

The atmospheric conditions you can not change. You have only your own human house to watch in order to keep it in harmony with the atmospheric conditions, and thereby bridge you over until conditions improve and the epidemic disappears.

If a manufacturer has twenty machines in a building performing various kinds of work, and each machine is more or less dependent upon the others and the power, for some reason, should be lowered for a space of several weeks, he would likely, if he had an eye to economy, tell his employees to be as sparing of the power as possible, to keep the machines clean, well oiled, and especially to put only as much work upon them as they can easily endure without clogging one or more of them, as a breakdown in any one part would shut down the whole machine and interfere more or less with the other machines, as each is, in a measure, depedent upon the smooth action of all the others. Just so the various organs of the body are correlated to each other.

Apply this logic to the millions of human machines in the South during the time the power that runs them is below par. It is the only remedy. The individual must be taught how to keep his human machine clean, well oiled, and especially not to load it up with work or put materials through it which will clog or obstruct its function.

Hence, too much food and poor air through the lungs lowers the powers of the body and produces excess, and accumulation of ashes, smoke and klinkers (waste products).

Good food, clean surroundings, clean houses, but poor air draft, will do the

same. Good food and insufficient sleep will do the same.

Good or poor food eaten in excess will do likewise.

Those who dissipate and do not sleep sufficiently and partake of foods that the system can not handle, will take the disease.

Another class are those who sit in their offices and never think of taking a full breath. Their breathing is always below normal.

Still another class is the hard worker, the laboring man who produces large quantities of waste matter and does not receive electric power enough from the air to eliminate it, is likely to be among the first to come down with yellow fever. Also those who eat poor foods and besides this live in close and unventilated apartments, are also among the first to come down.

As above stated, all human beings are not alike. They differ in temperament, constitution and in various other degrees of make-up. Those predominating in the motive temperament and deficient in the vital temperament are most apt to take the yellow fever (all things equal).

So we see that to explain in all its details the various combinations it would take a volume, but the law is the same in all cases.

The *great mistake* has been to look for one specific cause, for instance, "the mosquito," instead of understanding certain principles of natural law, the connecting link between ourselves and the great power-house of the universe, "the air."

To summarize: Do very little work, avoid worry and nervous tensions. The contagion fright has, no doubt, been the cause of thousands of cases of yellow fever.

Sleep in well ventilated rooms, where a breeze can be had.

Eat small quantities of food, which are easily digested and assimilated. Especially make a practice of steady and full breathing of the coolest and most active air possible, as this, more than anything else, assists in giving electrical force to the blood and eliminating the carbon dioxide and other waste matter.

The public should have this knowledge taught and explained to them in a clear, practical way.

For the future, I predict that the government will appoint men versed in these matters to more thoroughly study these atmospheric conditions, and thus be able to inform the public beforehand of developing conditions which indicate the danger of an approaching epidemic, just as they now inform the public of impending storms. Also, that the principles laid down in this series of articles will be taught in all the schools by text books.

The contagion theory, mosquito theory, microbe theory, are the most atrocious, most nonsensical, most injurious delusions ever invented by the human mind. These medical wonders (authorities) never can demonstrate these theories to be true in a single instance, except on paper.

Now, Doctor, what have you to say? It is you and the public I am trying to help.

207 Grand Avenue.

(To be continued.)

[Written for the MEDICAL BRIEF.]

The Eighth Color—Some Thoughts on Light.

BY G. HIETT SWIMLEY,
Bunker Hill, W. Va.

In view of the recent interest taken in the properties of the solar rays, and especially of the ultra-violet rays, the writer desires to place before the readers of the BRIEF a few theories concerning light and other radiant energy. These theories are based upon the remarkable analogy existing between the musical scale and the luminous spectrum, each being divided into seven parts or intervals, with this difference—that while the scale is extended upward by considering the eighth, or octave of the first tone, as one (do) of another similar series (Fig. 1.), the luminous spectrum is usually described as consisting of only the seven colors or intervals, viz., red, orange, yellow, green, blue, indigo and violet.

Now, Wells' Natural Philosophy says: "According to some authorities, white solar light consists of only three colors—red, yellow and blue, which, by combining, produce the other four colors, orange, green, indigo and violet * * *.

"Thus, by the union of red and yellow we may produce orange; by yellow and blue, green; by blue and red, violet; indigo being considered as merely a shade of blue."

Now, reasoning from analogy, one would expect violet, which is said to be a combination of blue and red, to be situated between these two colors, which is not the case unless one conceive a second red

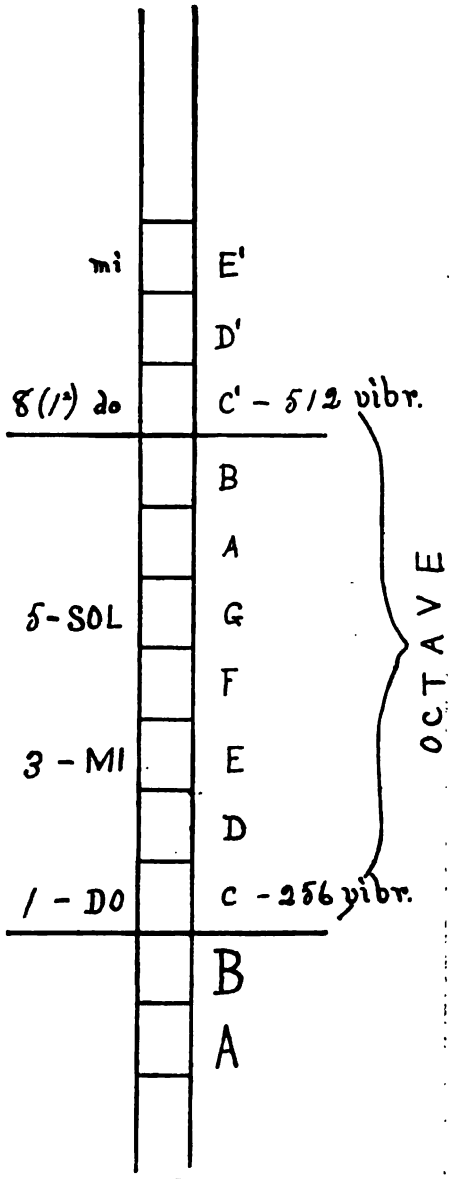

FIGURE 1.

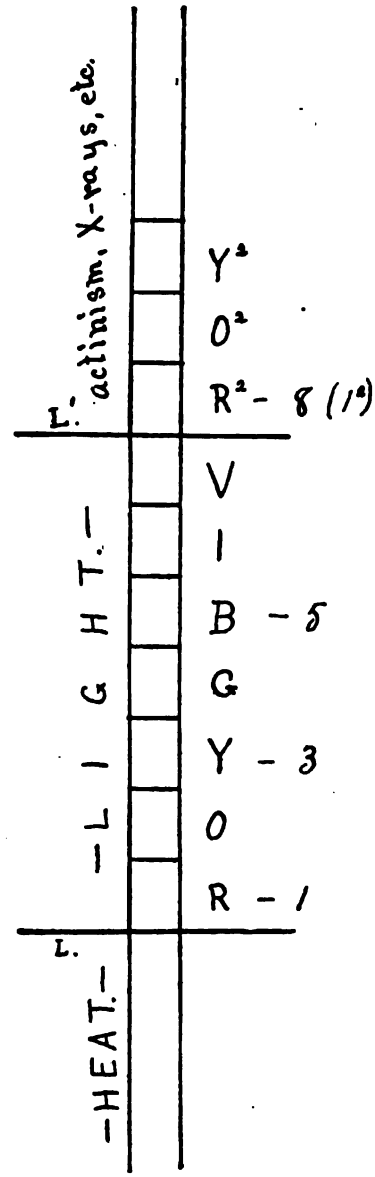

FIGURE 2. L, L' visual limits.

[All rights reserved.]

It will be noticed that orange, being composed of red and yellow, occupies a place in the spectrum between its components. The same is true of green, which is situated between yellow and blue.

ray, (R^2,—Fig. 2,) the octave of the first, to lie in the space beyond the violet. This is exactly what one would be led to suspect, from the analogy of the musical scale, in which the seventh tone (B) is followed by an eighth or octave

(C^1), having a rate of vibration double that of the first tone of the series. (Fig. 1). It will be noticed also that the so-called simple or primary colors, red, yellow and blue, correspond in position to the principal tones of the scale—the first, third and fifth; "Do," "Mi," and "Sol";—those which form the common chord. (See Figures 1 and 2.)

Having by this reasoning assumed the existence of a hypothetical eighth color, the writer sought to verify the theory, and found a second red ray in the rainbow, lying beyond the violet. The color of this ray appeared very faint and delicate, but unmistakably red. It is probable that this ray, lying as it does at or near the usual limit of vision, is invisible to many, if not to the majority, which would account for the silence of many textbooks upon the subject.

It may be possible that a body of a given color—that is, one whose molecules are capable of vibrating at the rate necessary to produce such color—also emits, at the same time, vibrations of higher rates, just as a string may at the same time vibrate both as a whole and also in segments, producing those harmonics or over-tones which cause sounds from different sources to differ so greatly in quality or timbre, although of the same pitch.

Now, assuming this to be the case, it at once suggests an explanation of the fact that differently colored bodies produce different effects upon the photographic plate, although the actinic rays are usually said to lie beyond the limit of the visible spectrum. For instance, a body emitting vibrations which cause green light, might at the same time emit vibrations of one-half the wave-length, but double the rate, thus producing a ray well beyond the visual limit.

The unusual color sensations experienced by persons under the influence of certain drugs and liquors may be due to an increased sensitiveness of the retina, or to a change in the refracting media of the eye, causing an abnormal upward extension of the visual limit, and consequent response to the upper partials or "over-tones" above mentioned.

Again, these upper partials may account for the power said to be possessed by certain persons, of reading written matter enclosed in a sealed envelope, or otherwise concealed, as some persons may be able to distinguish rays which, by reason of their short wave-length, are invisible to others; just as some can hear sounds which are too shrill or acute to be audible to others.

In concluding, it may be remarked that the ray most restful to the eye, the green, is found midway between the visual limits, being thus equally devoid of the more mechanical effect of the coarser heat vibrations, and the chemical action of those of actinism.

[Written for the MEDICAL BRIEF.]

Medicinal Weeds in America.

BY E. S. MCKEE, M. D.,
Cincinnati, Ohio.

Weeds are generally supposed to be worse than worthless. Especially is this supposed by many to be the case with what is known as the weed, viz., tobacco. It may be of interest to the farmer, as well as the medical profession, to know that certain well known nuisances of the weed family *infecting or infesting* the country are the sources of crude drugs obtained wholly or in part from abroad. The raising or cultivation of these weeds may not be desirable or profitable to the farmer, but in the fight to exterminate them which is forced on him for the preservation of his crops, and which in some States is made incumbent upon him by certain anti-weed laws, he can make these pests sources of profit. The prices of these drugs are not great and would hardly tempt one to this line of business for profit, but as one of the by-products of the farm, the improvement of the value of the land, increase of crops, showing a regard for the welfare of his neighbor and obeying the law, with the addition of a small income, the matter can be made quite profitable. It is suggested that the farmers' boys could make the gathering and sale of these medicinal weeds far more lucrative than going fishing. He could thus help to further free his country from the domain of Europe. The Latin name is given in parenthesis, for other names vary so much in different localities and

ages that the Latin name is the only safe one to go by. The Latin names do not change.

Burdock, cockle button, cucold dock, beggars' button, burr bur, stick button, hardock and barbane (*articum latta*) was introduced from the old world, and is very abundant in the eastern and central States and in some parts of the western, growing along roadsides, fields, pastures and waste places. One plant sometimes bears 400,000 seeds. The root alone is recognized in the U. S. Pharmacopeia, though the leaves and seeds are also used. About 50,000 pounds of lappa, or burdock root, are imported annually, the best coming from Belgium. The price of the root ranges from 3 to 8 cents per pound and the seed from 5 to 10 cents per pound.

Dandelion, blow ball, canker wort, doon head clock, fortune teller, horse gowan, one o'clock, taraxicum. About 115,000 pounds are imported annually, at prices of from 4 to 6 cents per pound. (*Rumex crispus*).

Docks (rumex). Yellow dock, curled dock, sour dock, the kind mostly used in medicine, introduced from Europe and generally considered quite a nuisance.

Broad leaved dock (*rumex obtusifolis*), bitter dock, common dock, blunt leaved dock, butter dock. Yellow rooted dock (*rumex britannica*) frequents swampy places. The root, which is the part collected for medicinal purposes, and should be collected in the late summer or autumn after the fruiting tops have ripened, then washed, split lengthwise into halves or quarters and carefully dried. Docks are largely employed in purifying the blood and in skin diseases. Rumex or dock roots are imported into this country to the extent of about 125,000 pounds annually. Price, 2 to 8 cents per pound.

Couch grass (agropyron repens, triticum repens), dog grass, quick grass, quack grass, quitch grass, scutch grass, twitch grass, witch grass, wheat grass, Chandler's grass, creeping wheat grass, devil's grass, durfa grass, Durfee grass, Dutch grass, Fin's grass, quake grass. Introduced from Europe and is a most troublesome pest. Most abundant from Maine to Maryland and west as far as Missouri. Scarce in the South, but gaining ground on the Pacific slope. Couch grass is very difficult to eradicate on account of being jointed root stock, each joint of which is capable of producing a new plant. Every bit of the root stock, therefore, must be removed from the soil in order to eradicate it. About 250,000 pounds are brought to this country annually from Europe. Price 3 to 7 cents per pound.

Pokeweed (Phytolacca Americana, Phytolacca decandra), poke, pigeon berry garget, sooke, pocan, coakum, Virginian poke, ink berry, red ink berry, American night shade, cancer jalap, red weed. It is found flourishing in that quadrangle bound by Maine, Florida, Texas, Minnesota. The berries and roots are used for medicinal purposes. Both of these should be collected when the berries are fully mature, which usually occurs about two months after flowering. Both berries and roots are alterative, act upon the bowels and cause vomiting; are used in blood and skin diseases and in relieving pain and allaying inflammation. Phytolacca, or poke root, brings 2 to 5 cents per pound and the dried berries about 5 cents per pound.

Fox glove (digitalis purpurea) thimbles of, fairy cap, fairy fingers, etc.; came from Europe. Leaves of the second year's growth only are employed, and these are collected when about two-thirds of the flowers are expanded. Are used in heart troubles. From 40,000 to 60,000 pounds of digitalis (or fox glove) are annually imported into this country from Europe, where the plant is cultivated. The price per pound ranges from 6 to 8 cents.

Mullein (verbascum thapsis), great mullein, velvet or mullein dock, Aaron's rod, Adam's flannel blanket, leaf bullocks, lungwort, cows' or clowns' lungwort, candle wick, hares' beard, Jacob's staff, Jupiter's staff, Peter's staff, lady's fox glove, shepherd's club, velvet plant, etc. Is a native of Europe and has become a troublesome plant as far west in this country as Minnesota, and still traveling west. The seeds and leaves are used in coughs, catarrh and nervousness, and to relieve pain and inflammation. About 5,000 pounds of verbascum, or mullein flowers, are imported every year, chiefly from Germany, where the plant is cultivated. The leaves are imported to a small extent. Price of

leaves 2 to 5 cents per pound; flowers, 25 to 75 cents per pound.

Lobelia (lobelia inflata), Indian tobacco, wild tobacco, bladder pod, asthma weed, gagroot, puke weed, vomit wort, low belia, eye bright. Occurs over the United States, most frequent east of the Mississippi. The leaves and flowering tops are used in medicine, and there is a good demand for the seeds. Lobelia is an expectorant, acts on the nervous system and bowels and causes vomiting, and is poisonous. Price, dried leaves and tops, 3 to 8 cents per pound; seed, 15 to 20 cents per pound.

Tansy (tanacetum vulgare), bitter buttons, ginger plant, parsley fern, scented fern. Introduced from Europe as a garden plant; escaped cultivation and became a wayside seed in that territory bound by New England, North Carolina, Missouri and Minnesota. At the time of flowering the leaves and tops are gathered for medicinal purposes. It is employed in the complaints of females and has stimulant and tonic properties, and is used to expel worms. It is poisonous and has been known to cause death. Importation, 30,000 pounds annually; price, 3 to 6 cents per pound.

Gum plant (grindelia robusta) occurs in the States west of the Rocky Mountains.. The scaly grindelia (grindelia squarrosa) has a wider distribution than the gum plant, being found on the plains of Saskatchewan, in the Canadian Northwest, south to Texas and Mexico, and west to the Pacific. The leaves and flowering tops of these plants are gathered for medicinal purposes, and bring from 5 to 10 cents per pound. Used in asthma, chronic bronchitis, whooping cough, and poison ivy and oak.

Boneset (eupatorium perfoliatum) thoroughwort, crosswort, wood boneset, teasel, ague weed, feverwort, thorough stem or thoroughwax, vegetable antimony, sweating plant, Indian sage, wild sage, tearal, wild Isaac. Found east of the Rocky Mountains. The leaves and flowering tops are used in medicine and should be collected when in bloom. A popular remedy in fever, ague, colds, dyspepsia, jaundice, and as a tonic. Price, 2 to 8 cents per pound.

Catnip (nepeta cataria), catmint, catrup, cat wort, field mint. Naturalized from Europe; found from Canada to Virginia and Arkansas. The flowering tops and leaves are to be collected. It is used in diseases of females, as a stimulant and tonic, and as a nerve sedative. Price, 2 to 8 cents per pound.

Hoarhound (marrubium vulgare), Houndsbene, marvel, marube. Found in great abundance all over the United States. Leaves and tops are used, gathered just before in flower. Used for colds and in dyspepsia and expelling worms. Importation, 115,000 pounds.

Blessed Thistle (Cnicus Benedictus), Holy thistle, bitter thistle, Our Lady's thistle, St. Benedict's thistle, cursed thistle, spotted thistle. Imported from Europe. Occurs in Southern States and in California and Utah. The leaves and tops are collected when the plant is in flower. They are used in fevers, dyspepsia, and as a tonic. Imported from Germany to a limited extent at 8 to 10 cents per pound.

Yarrow (achillæ millefolium). Milfoil, thousand leaf, thousand leaved clover, green arrow, gordoloka, nosebleed, blood wort, carpenters' grass, sanguinary, soldiers' woundwort, old man's pepper. Range from New England to Missouri. The entire plant is gathered when in flower. It is a stimulant tonic, acts upon the bladder and checks excessive discharges. Imported in small quantities at from 2 to 5 cents per pound.

Canada Flea Bane (leptilon canadense). Horse weed, colt's tail, scabious, pride weed, butter weed, fire weed, blood stanch, cow's tail, bitter weed. Found mostly in the Northern Mississippi valley. The entire herb is medicinal and should be gathered during the flowering season. Is used for arresting hemorrhage and for diarrhea and dropsy. The price of erigeron or flea bane is 6 to 8 cents per pound.

Jimson Weed (datura stramonium). Jamestown weed (from which jimson weed is derived), thornapple, stinkweed, stinkwort, devil's apple, mad apple, devil's trumpet, fireweed, Jamestown lily, dewtree apple of Peru. Exceedingly common throughout the whole country. The leaves are poison, cause dilatation of the pupil of the eye and are used principally in asthma. The seeds should be taken from the plants when quite ripe, but still of a green color. The seeds, like the leaves,

are poisonous and possess the same qualities. About 150,000 pounds of stramonium leaves and about 10,000 pounds of seeds are imported annually, leaves at 2 to 8 cents and seeds at 3 to 7 cents per pound. The purple thornapple (datura tatula) is very similar to the jimson weed, possesses the same properties, and is distinguished from it by its reddish stems and purplish flowers.

Poison Hemlock (conium maculatum). Spotted parsley, St. Bennet's herb, bad man's oatmeal, heck how, wod's thistle, cashes, bunk, poison parsley, spotted cow bane. Poison hemlock was brought from Europe and is common in the Eastern and Middle States. Fatal cases of poisoning have resulted from mistaking this plant for parsley. Fruit and leaves are used. Fruit should be collected while still green but full grown. The leaves should be collected only when the plant is in flower, which will be in the second year of its growth. Used in rheumatism, neuralgia and asthma, and in cases where the nervous system is in an excited condition. The imports of conium, or poison hemlock seed, amounts to about 20,000 pounds annually, and 15,000 pounds of leaves. Price, seed, 3 cents; leaves, 4 cents per pound.

American Wormseed (chenopodium ambrosiodides). Mexican tea, Spanish tea, Jerusalem tea, Jesuit tea, ambrosia. Brought from tropical America, it has spread over the entire United States. The entire leafy part of the plant is sometimes used for distillation of the oil, but the fruit alone is mentioned in the pharmacopeia. It is used to expel worms. The price ranges from 6 to 8 cents per pound, and the oil sells at $1.50 per pound.

Black Mustard (sinapis nigra). Brown mustard, red mustard. A very troublesome weed in all parts of the United States. White mustard (sinapis alba), smaller in growth than black mustard. The seeds are the parts used, mainly in plasters and poultices; also as an emetic and in dyspepsia. Over five million pounds of mustard is imported into the United States annually. Price 3 to 6 cents per pound.

Your journal, the MEDICAL BRIEF, is certainly very interesting.—J. P. ROTTOT, M. D., Montreal, Can.

[Written for the MEDICAL BRIEF.]

Vitality.

BY L. BRUCE, D. O.,
Hanford, Cal.

Vitality, as I understand it, is the inherent power of the individual tissue to withstand disease; a power closely related to life, and one when possessed by an individual to the greatest extent causes that individual to be immune from disease. If possessed in a less extent, it causes the individual to be not wholly immune to disease, but to disease in some forms. And if possessed in the least extent it causes the individual to be not immune, but rather subject to disease.

I give the above for what it may be worth. I believe it. Others may have a better definition. If so I will be pleased to read it.

The question I wish to discuss in this short article is, what produces vitality, such as makes the individual immune to disease, or so near so that the disease, when acquired, produces no serious symptoms?

This question, I believe, has but one solution, and it is the desire as well as the duty of every physician to know it. It is very evident to me that to have perfect vitality we must have perfect functioning; and to have perfect functioning we must have a perfect organism.

For an individual to possess a perfect vitality, he must possess a body composed of perfect organs, those organs composed of perfect tissues, and those organs and tissues responding to that force called life and performing perfect functions. Each tissue and organ has some normal work to do and each, to a certain extent, depends upon all others. Therefore, to have perfect functioning collectively, we must have each and every tissue and organ perfect structurally.

To illustrate: An individual may have, by accident or by continuous work of some kind, developed a curvature of the spine in the region from the fourth to the twelfth dorsal vertabræ. This curvature mechanically interferes with the supply of arterial blood entering the spinal cavity to supply the tissues of the cord, and as the walls of the veins are much less re-

sistive than are those of the arteries, a greater interference is caused to the return venous flow of blood from the cord. Thus congestion is caused. It does not send out normal impulses over the splanchnic nerves, and consequently the organs they supply are interfered with in turn. And for our illustration we will say it is in the region of the cells connected with the smallest splanchnic that the congestion is greatest. Then that nerve carries to the kidneys imperfect impulses. First, they are stimulative, and the kidneys give all indications of being too active; then, later, the stimulation becomes inhibition, as continued stimulation does, and we have a decrease in the action of the kidneys. Or, the stimulation in the cord may affect mostly the vaso-constrictor fibers to the kidneys and by their stimulation lessen the blood supply until degeneration would begin. In either case the deviation from the normal structure of the spine has caused a deviation from the normal in the functioning of the kidneys and thus lessened the vitality until disease has developed.

Or, again, the deviation may be in the upper thoracic region, and interfere with the nerve and blood supply to the lung tissue, and thus put the tissue in a weakened condition, when it is easy for tubercular bacteria to overcome the interfered-with resistive forces of nature and cause disease in the lungs.

It is also very evident to me that an individual with perfect vitality must have perfect environment to maintain the perfect vitality.

To illustrate: An individual may have perfect lung tissue with no interference with nature's resistive forces, but if he is compelled to breathe impure air for any considerable length of time his lung tissue, as well as most all other tissue of his body, will become weakened and subject to the development of disease.

Or, an individual may have a perfect vitality and abuse it by indiscretions in diet, or exercise, or by exposure, and cause it to become so weakened that disease will be the rule, and not the exception, in his case.

Now, if this is good logic and is what produces vitality—whatever we may define it as being—and if vitality has so much to do in restoring the sick to health, is it not necessary that we should look to the removal of these causes in attempting to cure the sick?

We naturally stop to ask, can it be done? I believe the majority of physicians are ready to contend that, so far as environment tends to lessen vitality, it can be overcome. To do that we must educate the people as to what they can do with impunity and what will tend to cause disease, and lend our assistance to everything that looks to improve sanitary conditions where needed.

But as to how we can produce or restore the perfect structural organism we are not of one opinion. I believe undoubtedly that the "survival of the fittest" is and will continue to do much in this direction. And I believe the restoring of a perfect structural organism can, in the great majority of cases, be accomplished. But an individual who was born with weakened tissues and an imperfect organism, for them we can not hope for so much. We can but stimulate or inhibit the various functional activities, as the case may demand, and thus assist the tissues and organs to come nearer to perfection.

Here I will stop, for we are of vastly different opinions as to how this may best be accomplished. The allopath will contend for allopathic remedies, some one and some another; the homeopath for homeopathic remedies, and the osteopath for osteopathic methods. And I presume it is needless for me to say I favor the latter.

[Written for the MEDICAL BRIEF.]

Cantharidin.

BY C. R. KING, M. D.,
Atlanta, Ga.

I would ask the many thousand physicians who take the BRIEF one question: Brother physicians, did you ever give the one three thousandths-grain of cantharidin in a nice white granule or pillet form?

Did you ever give it to a patient?

If you ever did, please let me know through the BRIEF, or by letter, just what results you got, and what your patients thought of the effect on the heart and nervous system.

512 Austell Building.

[Written for the MEDICAL BRIEF.]

Greek Terms in Medical Language—A Preliminary Collection.*

BY DR. A. ROSE,
New York City.

(Continued from page 435.)

Acesma, *τὸ ἀκεσμα*, the therapy; *ἀκεσίνοσος, ον*, healing of sickness, or sickness-healing.

Acesiponus, *ἀκεσίπονος, ον*, pain relieving; *ἀκεσώδυνος, ον*, anodyne, allaying pain.

Acesphoria, *ἡ ἀκεσφορία*, the therapy.

Acestor or Acester, *ὁ ἀκέστωρ, ορος*, or *ὁ ἀκεστήρ, ῆρος*, the physician; acestious, *ἀκεστικος, ή, όν*, skillful in healing; acestoria, *ἡ ἀκεστορία*, the healing art; acestos, *ἀκεστός, ή, όν*, curable; acestris, *ἡ ἀκεστρίς, ίδος* or acestoris, *ἡ ἀκεστορίς, ιδος*, the female physician; *τὸ ἀκεστρον*, the medicine.

Achalybaemia, Piony's term for deficiency of iron in the blood. Not found in Greek literature.

Acharistum, *ἀχάριστος, ον*, ungrateful. Term said to have been applied by Galen to a certain remedy, but this can not be true. In the middle ages it has been the humoristic name for remedies which cured so promptly as to be unprofitable to the physician. In some old lexicons it is said that the ancients applied this term to a certain remedy against catarrh. However this may be, the name when applied to a certain remedy is unscientific.

Acetonaemia (*Aceton*) *αἱμία*.

Achilia, *ἀχειλος, ον*, without lips.

Achillodynia, *ἡ ἀχιλλωδυνία—ἡ ὀδύνη*, the pain. E. Albert's designation for a complex of symptoms consisting in severe pains during walking or standing, located at the insertion of the tendo Achillis.

Achilloraphia, *ἡ ραφή ῆς*, the suture; suture of the tendo Achillis. Achillotomy, *ἡ τομή ῆς*, the cut, the amputation; subcutaneous division of the tendo Achillis.

Achirus, *ἀχειρ, ὁ, ἡ ἀχειρος*, without hands. Individuum with congenital complete absence of hands or feet.

Achloropsia, *ἀ* priv. *χλωρός*, green; *ἡ ὄψις, εως*, the sight, green blindness.

Achlys, *ἡ ἀχλύς, ύος*, the mist; disturbance of sight in consequence of ulceration or cicatrization of the cornea.

Acholia, *ἡ ἀχολία, ἀ* priv. *ἡ χολή*, the bile; deficiency of secretion of bile, happening especially in severe, extensive diseases of the liver, in which, according to Frerichs, the liver can not produce bile any more.

Achor, *ὁ ἀχώρ, ῶρος*, scurf, dandruff. Galen. By achor, according to Willan, is understood a special kind of pustules which are very small, and which happen foremost on the scalp and dry into a crust of a granular appearance—achor granulatus. Achorion (Schoenleini)—which is a very wrong name, since it means without chorion—shall be a species of achor which produces the disease called favus, discovered by Schoenlein in 1839. Achor has more recently been studied by Grawitz.

Achoresis, *ἡ ἀχωρησία, ἡ χίνρησις*, the capacity; *ἀ* priv. The word achoresis is used by Grossi to signify the diminished capacity of a hollow organ, like the bladder.

Achoria, the translation of this word would be without sweetmeats, for *τά χορία*, is a sort of a cream, a mixture of milk and honey. In our current onomatology this term is applied to mammals in which there is no direct connection between the fœtus and the maternal organs, *i. e.*, where no chorion is formed. Achorion, *ἀ* priv. *τὸ χόριον, ον*, the membrane which envelops the fœtus.

Achroa, *ἡ ἀχροια*, the lack of color. Pallor due to cachexy.

Achroma, *ἀχρωμος, ον*, without color; *ἀχρώματος, ον, ἄχροος, ον, ἀχροος, ουν*, without color. Achroma is not Greek; *ἀχρωματιστος, ον*, not colored; *i. e.*, no color applied. Achromia shall signify decoloration, but it is not Greek, neither is achromatia. Cor-

*This second issue of the collection of Greek terms has been revised in Athens before the manuscript was given to the typographer. Of the first issue, which appeared in the June number of the MEDICAL BRIEF, only the proof was revised and the revision I received simultaneously with the number for June in which the article was contained. Here is what my revisor said: "The words on 'abaptiston' are not exactly Galen's own words, they are not in the style of Greek of Galen's time." Indeed, I was well aware of this fact, but I omitted to state it, because any one knowing Greek must recognize it at once, and besides I did not give the words as quotation, made no quotation marks. I took them simply from current Greek literature. In regard to Geber's term "crithoptes monunguiculosus" my revisor is in the same perplexity as myself, not knowing what to make of it. He gives with interrogation marks the following words: *κριθόπτης, κριδοκόπτης, κρικόπος, κριδόκοπος*. Perhaps some reader of the MEDICAL BRIEF will dissolve the mystery.

There are two errors overlooked by me when I read the proof; *ἀκανθαβόλος* should be *ἀκανθοβόλος* and acatopsis should be acatopsia.

rect would be achromatismos. Achromatia is "Berliner Griechisch."

Achylia, ἡ ἀχυλία, ἄχυλος, ον, without juice, without chyle. Achylia, the defective formation of chyle; achylotos, ἀχύλωτος, ον (μὴ μεταβληθεὶς εἰς χυλόν, not converted into chyle. Galen).

Achymosis, ἡ ἀχυμία, defective formation of chyme, adjective achymatus, ἀχύμωτος, ον, Achymus, ἄχυμος, ος, ον, without chyme.

Acicus, acicys ὁ ἡ ἀκικυς, υος, the weak, without strength, weakness following sickness.

Acidimeter (Acidi), μέτρον. Recte: ὀξύμετρον.

Acidnos, ἀκιδνός, ή, όν, sick, weak.

Acidopeirastica, ἡ ἀκίς, ίδος, the point, the needle; πειράζω, to try. Acupuncture of the heart in case of doubtful death, suggested by Middeldorpf, also exploratory puncture in general.

Acidology shall mean the teaching about surgical instruments; this term does not occur in Greek literature, neither the terms aciurgia and acidurgia.

Acinesia, ἡ ἀκίνησία, κινῶ, to move; ἀ priv. ἡ κίνησις, the motion. Akinesia, rest, loss of the power of motion, adjective ἀκίνητος, ον, and η, ον.

Aclastic, ἄκλαστος, ον, invulnerable; κλαστός, ή, όν broken; ἀ priv. (μεταφ. ἐπὶ γραμμῆς μὴ διαδλωμένης, metaphrastic rays not refracted), transmitting rays of light without refracting them.

Acleidian, ἀκλειδία, ἀ priv. ἡ κλείς, κλειδός, the collar bone; τὸ κλειδοκόκκαλον. In zoology, destitute of clavicles.

Acleitrocardia, ἀ priv. τὸ κλειδρον, ου, any kind of partition (the entrance of the larynx. Hippocrates). Piony's term for patency of the foramen ovale. Should be spelled Acleithrocardia.

Acinos, ἡ ἄκινος, ου, some sorts of thyme used in medicine. It is an error in the medical lexicons to translate ἄκινος with berry or grape. The Latin word acinus means grape or berry, but not the Greek ἄκινος.

Acis, ἡ, ἀκίς, ίδος, the point, a pointed object, Hippocrates. A surgical bandage, Galen.

Acmasticus, ἀκμαστικός, ή, όν, or ἀκμαῖος, in full acme, lively, strong, robust; ἀκμαστικὸς πυρετός, continuous fever where the temperature remains at the height for a long period of time. Galen.

Acne, ἡ ἀκμή, the culmination or most important point of all things, the flower, the zenith of the human life; αἱ ἀκμαί, the critical signal of sickness. Hippocrates. There is no Greek word acne. In Greek medical literature the word for what we call acne is acmai. In fact, acne exists in no other language but in medical jargon.

Acnemia, ἀκνημος, ον, without calves (of leg). Ἀκνημία without legs.

Acnesmos, ἀ priv. ὁ κνησμός or κνῆσις, the itching. Hippocrates; free from itching.

Acnestis, ἡ ἀκνηστις, ιος, the spine of vertebrata; τὸ κνῆστρον, or ἡ κνῆστις, little knife to scrape with. Galen from Hippocrates.

Acnitis is not a Greek word. Barthélemy has introduced it to designate a peculiar, probably infectious disseminated general skin affection, resembling acmai, associated with anæmia, the eruption in this form of dermatitis mostly suppurative and leaves cicatrices.

Acnisos, ἀκνισος, ον, without smoke or bad odor, that is, without the odor of burning fat, the fume of roasting meat without grease.

Acoccygeus, ἀ priv. κόκκυξ ὁ κοκκυς, υγος, the coccyx; without coccyx.

Acoe, ἡ ἀκοή ῆς, the hearing.

Acoelia, ἀκοίλιος, ος, ον, without cavity, without belly, without stomach.

Acoenosis, Acoesis, not Greek.

Acognosia from ἄκος, εος and γνῶσις, the knowledge; the knowledge of remedies equal to pharmacognosia.

Acography, Acolabis, not Greek.

Acolasia, ἡ ἀκολασία, ας, licentiousness, intemperance.

Acologicus, acologus, not Greek.

Acoluthia, ἡ ἀκολουθία, ας, the following, the conformity to.

Acomia, ἀκομος, ον, without hair, bald.

Acondylous, ἀκόνδυλος, ον, without articulation.

Aconion, τὸ ἀκόνιον, an old remedy applied to the eyes.

Acontismus, ὁ ἀκοντισμός, ου, or ἡ ἀκόντισις, εως, darting out of liquids; thrusting a spear.

Acopia, ἡ ἀκοπία, free from fatigue; ἀκοπίαστος, ον, infatigable; acopon, τὸ ἄκοπον, an ancient remedy; an ointment which relieved fatigue.

Acoprosis, ἄκοπρος, ον, voiding little excrement, difficult defæcation. Hippocrates.

Acoria, ἡ ἀκορία, ας insatiable hunger; a form of visceral anæsthesia; ἀκορία ποτοῦ, insatiable desire to drink.

Acos, *τὸ ἄκος, εος, ους*, the remedy.

Acosmia, *ἡ ἀκοσμία*, disorder or irregularity, especially of the critical days of disease; *ἄκοσμος ον*, irregular, or without elegance.

Acoumeter, *τὸ ἀκουσίμετρον*, the measure of sound.

Acouoxylon, *τὸ ἀκουσίξυλον*, the stethoscop.

Acousia, *ἡ ἀκουσία*, as, the involuntary action.

Acoustic, *ἀκουστικός ἡ, όν.*

Acousma, *τὸ ἀκουσμα, ατος*, the hearing (of music for instance).

Acracholia, *ἡ ἀκραχολία*, as, passionateness.

Acraepala, *ἀκραίπαλος, ον*, not causing vomiting, wine that does not cause vomiting when indulged in too much.

Acrasia, *ἡ ἀκρασία*, bad mixture.

[Written for the MEDICAL BRIEF.]

Consumption and Its Etiology.

BY C. R. NORMAN, M. D.,

D'Lo, Miss.

This disease is still an open field for investigation and discussion, and until its true cause and nature is known we all have a right to our private views, although they may be, like my own, so at variance with the teachings and commonly received theories of the regular profession. I propose to point out some of the contradictions in the teachings, views and theories of different authors on this subject.

Professor Prudens says: "The tubercular bacillus is the sole and only cause of consumption, and that its entrance into the human system can be prevented by destroying the sputa of patients; that the patient can inherit the tendency to, but not the disease." We would infer from the above that it matters not how great the inherited tendency to the disease, it can not be developed unless the bacillus is introduced from without. Yet in the same sentence he says: "That any cause that lowers vitality tends to develop the disease."

Professor Senn, in his Principles of Surgery, says: "Tuberculosis in all its forms is caused by a specific microbe, and that phthisis of the lungs is a specific infection, and its etiology depends on an inoculable agent, and can be readily communicated from man to animals by inoculation, and must be introduced from without to develop the disease." He also says it never enters through the skin and is non-motile.

Professor Green, in his Pathological Anatomy, says: "There must be a predisposition in the system to this disease before the bacillus can exert its specific action; that it can not live in healthy blood or pure secretions; that there must be a lowering of vitality or something else that will induce a favorable condition or predisposition for its development;" and further says that "as to the nature of that predisposition, we know nothing whatever."

Professor Koch led the world to believe a few years ago that his discovery of the tubercular bacillus had, or would, forever settle the question as to the etiology of this disease. His and others' experiments were heralded to the world as wonderful scientific achievements. He gave this little microbe a name, and claimed for it extraordinary properties it did not possess.

We were led to believe that this little rod was armed with a steel-hardened drill in front and a poisonous sting in the rear, and woe unto the unfortunate individual that permitted its entrance into his system.

But since that time closer observation, and more careful experiments, caused the Professor to materially modify his views in regard to the bacillus.

Science has been lopping, pruning and eliminating until now we find the bacillus has no drill, has no sting, has no power of locomotion, has no predilection for certain parts; can be digested in a healthy, well co-ordinated nervous system. It is always present, awaiting that favorable condition which must always be present before it can exert any deleterious effects.

Professor Cornet, who is considered our highest authority on tuberculosis, says: "The tubercular bacillus is limited to the human body, where it finds a suitable nutritive medium and temperature, and that it is unable to develop or multiply *'extra corpus;'* also, that a number is important as a factor in this disease, as the introduction of a small number in a healthy system would soon perish."

You will note carefully that the Professor starts out carefully with the full determination never to admit for once the possibility of autoinfection. Yet, when confronted with some forms that point strongly in that direction, he simply passes them by, remarking that they are incomprehensible. It does seem that he gets things a little tangled in his differentiation between the true and spurious bacilli, admitting that the so-called spurious forms are to some extent pathogenic, possess some virulent properties, can not be distinguished from the true bacillus by the best microscope, and that the only means of distinguishing the difference is to test them by inoculation in the human system; yet admits at the same time that a small number of either, injected into the human system, will perish. Then I ask, if this be true that a small number of either injected into the human system will produce no effect, then where is the test?

He places considerable stress upon the feeble pathogenicity of the spurious bacilli, but when asked whether or not, if this so-called spurious bacillus (rendered so by its environments) should be placed in the same favorable condition as the true bacillus, would it not exert the same effect as the other?

This was an important question he should have answered, but he failed to do so, as it would have disturbed the harmony of his former views. Yet he admits that the pseudo bacillus are coming to occupy a more prominent position in bacteriology, they may cause errors in diagnosis, and that their recognition is not at all easy.

These views in regard to tuberculosis seem to have been pretty generally endorsed and taught as correct by the profession in our schools and text-books.

In attempting to investigate this subject we are constantly confronted with a mass of contradictory literature, conflicting views and theories. One pathologist says the bacillus is non-motile, and when introduced into the human system must drift with the circulation until it finds a natural lodgment. Then it begins to multiply and there starts up an irritation, its usual characteristic, and then begins to develop that peculiar condition of the parts we call tuberculosis.

Another claims that once it enters the human system it can and does penetrate every part of it, and even penetrates the hardest bony structures, but never finds a lodgment there, but penetrates through and lodges in that soft medullary tissue, and there begins its destructive work.

Others claim that once it enters the human system and finds a suitable location, it begins to rapidly multiply, and soon infects the entire system, from which there is no escape except in death.

Again, we are assured that occasionally a tubercle of the lungs, with swarms of bacilli, will burst and discharge all the little fellows into the bronchial tubes and heal up.

Again, that nature in her struggle will encapsule some of these tubercles, throw a cyst around them, and destroy them by strangulation.

Its natural tendency to attack certain foci to the exclusion of others has led some of our pathologists to believe that this little non-motile microbe actually possesses some degree of intelligence, as they claim that it has a natural predilection for certain parts of the human system.

One claims that it can not live in healthy blood or tissues. Another equally as good authority says that it may exist in healthy blood for long periods and prove harmless, until some depressing influence is brought to bear that will cause a depraved or vitiated condition of the secretions favorable to its development.

Professor Cornet says the bacillus may become "domiciled until developed by favorable conditions."

Confronted with all these conflicting views and contradictions, what are we going to do?

Since Koch's discovery, in 1882, we have certainly had sufficient time, with the vast number of scientific investigators and experimenters in the field, to have forever settled this question as to the true cause of consumption; yet we are as far from it to-day as we were at the start. Would it not be better to get out of this microbic rut, steer our craft into a different channel, and take observations from a different standpoint, and maybe we can get better results. If we make no progress we will be none the worse for the move.

Long and close observation has strongly impressed me with the belief that consumption is not caused by the bacillus tuberculosis, and that it plays no part as an etiological factor in this disease; but it is a product of a condition of the system resulting from a disturbance of the nervous system, causing a perverted or faulty performance of its functions, the result of which is a depraved or vitiated condition of the secretions, favorable to the development, sustenance and growth of the bacillus. I believe that the true cause of consumption is a loss of coördination of the central nervous system.

As long as a healthy correlation of the nervous system, and a harmonious performance of all its functions continue, this disease can not be developed by the introduction of an ordinary number of bacillus; but destroy that coördination and the natural result will be that condition of the organs of respiration and nutrition that will sooner or later terminate in tuberculosis.

Professor Carpenter, more than sixty years since, called attention to a number of affections resulting from a disturbed correlation of the nervous system, and now we have abundant evidence that certain sections or divisions of the spinal cord does control the performance of certain functions of different organs through the peripheral nerves that supply them, and that these functions are entirely separate and distinct from each other. The medulla oblongata is an independent center of the nervous system. It is the coordinator of respiration, and as such it completely dominates that function which is so essential to life.

I believe that the only solution of this question is in the study of local function.

Physiologists tells us that certain organs present special favorable conditions for the attacks of the bacillus.

If a certain organ shall present a condition more favorable to the development of the bacillus, or if that organ, because of its perverted functions, causes a vitiated condition of its secretions that will develop and nourish the bacillus tuberculosis, while the other parts of the same system not only resists its attacks, but will destroy it if it comes in contact with it.

Then I ask, where are we to look for this predisposing cause except in the nervous system?

That special condition of that organ has been caused by a failure of the nerves of that part to transmit to it that degree of vitality necessary to successfully resist the attacks of the bacillus.

We know that the consumptive starves, surrounded by all the luxuries of life, because he is not nourished by the food he consumes; it is not properly digested in the first place, and if it was, owing to that perverted condition of the nervous system, it is not appropriated as nature intended it should be, to the different organs, to build them up; but, like the man who has an abundance of fuel, and a defective apparatus to consume it, he freezes because his apparatus fails to generate heat, or if it is generated, it passes through the wrong channel.

The same rule holds good in regard to respiration; there may be a bountiful supply of oxygen and carbon dioxide, and other elements necessary for the stimulation of the central nervous system, but if the organs of respiration are defective they will be incapable of converting them into the forms and combinations necessary to cause that stimulating effect.

The medulla oblongata is the coördinating center of respiration, and it is upon this that life essentially depends.

When that essential and vitalizing function is performed in its normal manner, then we have that condition of the system that we term health; a condition that enables it to successfully resist the attacks of the bacillus, or really its condition is such as not to require any effort at resistance, but it is so strongly fortified by nature, that the bacillus can find no vulnerable point for attack, and, therefore, is harmless.

With that standard or high degree of health, the result of a well-coördinated nervous system and that harmonious and normal performance of the functions of the organs of respiration, the swarms of bacillus that are always present, when they come in contact with this condition of the human system, they perish for the want of that favorable, or necessary, condition for their existence.

If it be true then that this little microbe is harmless except when placed under favorable conditions, and that a small number, either of the true or spurious, introduced into the human system, will prove harmless; and that they are found on the human body, in the sputa, in the atmosphere, in saliva, in the soil, intestinal canal, in the blood, etc., then I ask why this great fear and clamoring for State and National legislation against an imaginary foe?

European governments adopted some of the most stringent and, we might say, cruel and inhuman restrictions against this poor and unfortunate class, with the belief that they could eradicate this disease, but they proved a complete failure.

By ignoring or eliminating the bacillus tuberculosis as an etiological factor in this disease, and viewing it in the light of a neuroses or perverted condition of the nervous system, we can far more readily account for the various forms it assumes.

We then have an explanation of that imaginary predilection of the bacillus for certain parts; that it is a loss of vitality in the nerve supply of these parts; we can more readily comprehend the nature of chronic nasal catarrh and tubercular tonsillitis; why they are good pointers in making an early diagnosis of consumption; also, it gives us more light on tubercular laryngitis-adenitis and tuberculosis of the bowels, bones, joints, etc.; also, the effects of tuberculin on the human system. In moderate quantities it produces no perceptible effects in a healthy and well-coördinated nervous system, but if there is a predisposition to tuberculosis from defective respiration, and faulty digestion, just in proportion to that condition will the effect be; if there is only a slight degree of lowered vitality the impression will be but little, and *vice versa*, but if larger quantities are thrown into the human system, septic infection is the result.

I do not believe this disease can ever be treated successfully on any other principle except as a neuroses, and that its causative theory is incorrect, and its treatment erroneous.

In regard to some of the views now recognized as scientific facts, and so taught in our schools and text-books, we now have conclusive evidence of their incorrectness; we now find that large numbers of tuberculosis of the joints, bones, and other local forms, make complete recoveries and leave no trace of infection in any other part of the system; and that the remedy used in affecting a cure, if brought in contact with the bacillus, does not destroy or kill it. Then what becomes of it?

I believe that all treatment in this disease should be directed to the coördination of the central nervous system, to correlate and harmonize those associated functions which are so essential to life, viz., respiration and nutrition.

The medulla oblongata transmits its vitalizing influence to the lungs through pneumogastric nerves, and just by the side of it arises another that transmits its vitalizing influence to all those glands concerned in digestion, and furnishes the material for that digestive ferment, without which we can have no digestion or nutrition, and at the same time imparts its influence to those muscles that are directly concerned in the physiological movements of the chest, which are so necessary in healthy respiration. Sunshine, exercise, open air, pure water, nutritious food, and a genial clime, are necessary for the health of all individuals; yet they are not therapeutic agents in the cure of consumption. I say they are not, because forty-nine out of every fifty that apply to me for treatment have been raised in the country, and have enjoyed sunshine, open air, pure water, nutritious food, and all the exercise they could bear.

So, if the disease will develop, surrounded by these conditions, how can you claim they are therapeutic agents in its cure?

We want and must have a remedial agent that will correlate and harmonize those associated functions that are directly concerned in furnishing those vitalizing elements upon which life essentially depends; then the standard of health will be elevated to that degree that will render the condition of the human system unfavorable for the existence of the bacillus, and the healthy blood will quickly eliminate the last one, and not a trace of them will be left.

[Written for the MEDICAL BRIEF.]

Tentology vs. Scientific Medicine.

BY WM. PROTZMAN, M. D.,
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Much can be said for and against Theories and Systems. Yet the medical profession can not succeed without them. As clinical observations are deceptive and misleading very often that requires theorizing; therefore, without a theory or systematic arrangement toward a common end there can be no science. A theory without scientific proof constitutes no more a scientific edifice than a conglomerate mass of material constitutes a monument of architecture. A system is true when founded on scientific principles, is false when it rests on imaginary analogies. The "Fad" theory that cures consumption, pneumonia and other pulmonary diseases by exposure of the body to the different temperatures, winter and summer, hot and cold, wet and dry, day and night, is a theory, according to medical science, that rests on imaginary analogies incompatible with every physiological law of the human body, which is doing much harm by filling untimely graves. Yet we find physicians recommending this out-door exposure in almost every section of the country; even make examples of their own bodies. This nonsensical fad is not confined to the country and little towns. Oh, no; as I have a published statement before me where Dr. Dunn, of New York City, cures every case of pneumonia; never lost a case with his tent system. He is very successful, is he not? He has had thirty cases, and all recovered. One of the patients was nearly dead when he began the tent system, and in two days the patient was convalescent. All of his patients were treated in an open tent where the temperature went down as low as 15° below. His successful treatment created a great revolution among the New York physicians. The Doctor erected a tent in Fordman's Hospital, New York City, with fourteen rooms, especially for pneumonia. The atmosphere in the little town of New York City must be very healthful. About two years ago in this same little city some doctor removed the stomach of a patient, coaptated the esophagus and duodenum. The patient recovered and enjoyed good health (?). If this tent system of exposing the body is true, where the resisting powers of the body are already at zero point, and where the tissue as well as the mental powers are in a pathological condition, then physiology, pathology, chemistry and therapeutics are but a cipher to a mathematical problem which compels us to ignore the intrinsic powers of resistance that furnishes the restorative support of the body and everts prostration. This, my dear reader of the BRIEF, is a subject of great importance. If this theory of exposure is intended for the oxygen, why not have the patient breathe pure oxygen gas where the physiological power of the system is protected? I am well aware that according to bacteriology a pathogenic microbe, toxines or ptomains can not exist in nascent oxygen. But why expose the physiological powers of resistance to obtain oxygen? Not until they establish the tent system on scientific principles and prove to me that exposure of the human body stimulates the intrinsic resisting powers of nature, whereby they destroy not only the pathogenic microbes but also its environments, will I abandon the fundamental principles of medicine and adopt the theory of tentology. We have seen this exposure of consumptives and other pulmonary diseases exemplified during our late war, where soldiers with consumption or consumptive diathesis either died in the army or were discharged for disability. Again, we find the native Indian, who roamed over woodland and prairie day and night, winter and summer, constantly exposed, a race that is almost extinct. Even the lower animals are taught by instinct to protect their bodies from snow and chilly winds of the north and scorching heat of summer. Yet, in the face of all these scientific and historical facts the old doctrine for the treatment of pulmonary diseases are to be relegated to the rear to sleep its death sleep from which there is no awakening. The tentologist is very progressive. He advertises in our daily papers, advising patients to go to some sanitarium or hospital where there are rooms already prepared, etc. This theory appears to me to look like a mi-

ragic delusion based on imaginary analogies, or else is intended to catch the ignorant, weak or helpless (who are ready to catch at straws to save their lives) for a few paltry dollars at some sanitarium or hospital. In conclusion, I will say that if exposure to different temperatures will strengthen the resisting powers of the body of a consumptive, why not expose every disease to the open air; tear down our comfortable and warm houses and hospitals, and live in the open air?

[Written for the MEDICAL BRIEF.]

Female Diseases.

BY S. K. MONTGOMERY, M. D.,
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That I may assist some physician who may overlook two diseases which, by the slightest neglect, may prove fatal, young physicians, and physicians who do not come in contact with these diseases on account of a limited practice are very liable to a very great and fatal mistake in their diagnosis. From my own experience, and what I have gained from others and others' writings, I am suspicious of those diseases when I find a patient with tenderness over any part of the abdomen or pelvic region. Before taking up the subject of the disease, we will consider the anatomy of the female pelvis, and more particularly the contents of same. Probably in no other portion of the body will we find in the same amount of space an equal amount of cellular tissue.

Beginning in the anterior portion, we find between the bladder and anterior portion of the uterus connective bands of cellular tissue uniting these two organs. Laterally we find other sections of tissue which assist in forming three separate compartments, the third of which is situated between the rectum and the posterior portion of the uterus, partially surrounding the rectum. From this we will readily see how large a field we have for the propagation of such diseases. Before taking up the consideration of pelvic cellulitis, let us consider the differentiation.

Between this disease and pelvic peritonitis, so far as the treatment and results are concerned, there is probably little difference; but that we may have a clear understanding of the diagnosis in each, we will compare the symptoms as usually found.

Peritonitis.—First, inflammation chiefly confined to the pelvic peritoneum; second, inflammation bilateral. Peritonitis onset sudden, with severe pain, both legs drawn up firm; flat effusion around the uterus or a bulging produced by serous effusion in Douglas pouch;. vaginal portion of the cervix normal length; does not spread around ligaments and iliac fossa; may affect the entire peritoneum; uterus displaced backward or forward; vomiting frequent.

Cellulitis.—First, Inflammation principally affects the pelvic cellular tissue; second, inflammation unilateral.

Cellulitis onset insidious; pain not marked; one leg drawn up firm; effusion bulging usually into the formix of one side; vomiting infrequent.

Pelvic peritonitis is frequently confounded with pelvic cellulitis, and occasionally pelvic hematocele, though in the latter the clinical history is of slight febrile disturbance. A history of tubal gestation, severe pain attending the rupture of the latter, and the subsequent bloody discharge from uterus should make this condition easily recognized. Both pelvic peritonitis and cellulitis often terminate in suppuration, and though in detail the treatment may differ somewhat, yet in the main it is the same. I will deal with a condition in which pus is found in the pelvis, whether it be as the result of a condition causing peritonitis or cellulitis.

Pelvic cellulitis, parametritis, or parametritis, as it is frequently called, is commonly divided by the better authors into two classes, viz., primary and secondary. Primary cellulitis is that form which is the result of direct invasion by pathogenic bacteria, usually through wounds, such as tears of the cervix or abrasions, and occasionally through direct lymphatic extension. Wounds of cervix is the most common source of infection as the result of childbirth, and the bacteria are most frequently carried in by the dirty and filthy fingers of the attending physician or nurse.

Pelvic cellulitis may, and probably does, originate in the majority of cases from the fallopian tubes and ovary.

As to the symptomatology in the primary cases, we will probably have but little trouble, for we will usually see the disease ushered in about the third or fourth day following confinement, with a chill, severe headache, marked pyrexia, malaise, which will at once suggest to the thoughtful physician the necessity for action. But not so marked are the symptoms of the secondary form. When pus may be found in the pelvis in the form generally spoken of as a pelvic abscess the most prominent symptoms complained of by the patient is pain confined usually, as a rule, to the pelvic region, and sometimes down the legs and back. If there is quite a quantity of pus the patient's legs will be flexed on the body. To relieve the slightest tendency toward muscular contraction a vaginal examination shows an unusual amount of tenderness, sometimes unilateral and sometimes on both sides of pelvis, and sometimes found almost entirely in the posterior portion or cul de sac of Douglas, and sometimes found (but rarely) situated in the anterior portion between the uterus and bladder. There will be a doughy feeling on pressure, with tenderness; the vault of vagina will be distended and extremely tense, pouting or pointing in the central portion.

However, we will not find it always so easy to determine just what structures are involved. We may have a distended tube and a pyosalpinx, or we may have an infected ovary which has become suppurating and distended; or we may have an abscess located in the broad ligament. Should either of these conditions exist, we will not, as a rule, find pouching in the vaginal wall. Usually find uterus fixed in position as a result of inflammation and resulting adhesions, and sometimes we will find the lower abdominal wall tense and hard, resulting from the same cause.

I will consider the treatment now. I say there is no medical treatment except the administration of such anodynes as are necessary to keep the excessive pain under control. When pus forms the case should be dealt with according to recognized surgical principles; the abscess should be opened as soon as fluctuation can be detected or there is indication of pointing, and the drainage tube should be inserted for a few days.

Perhaps we all agree that incision is the only way by which we can get or secure the needed drainage, and the next question is, what route shall we go or pursue?

National Volunteer Emergency-Service Medical Corps.

The calamity upon the Pacific Coast has become not only heartrending but absolutely stupefying in its unprecedented and stupendous proportions. Moved by a common impulse, the whole country is hastening to alleviate the distressed.

There are occasions of disaster and epidemics, of all too frequent occurrence; when all men recognize the tremendous part played by the medical profession in the relief of suffering and the saving of life, but even we, the members of that profession, have as a rule no adequate and abiding realization of the part. This is probably due to the fact that while our aid is always rendered promptly and heartily, it is done on the spur of the moment and without the advantage of special preparation for the emergency. In other words, it is because of lack of organization and this lack detracts materially from the effectiveness of the best intended efforts.

This need of readiness for the purpose of rendering medical and sanitary aid and relief in emergencies, including catastrophies, pestilence and war, is met with by the National Volunteer Emergency-Service Medical Corps, which is modeled on a distinct military basis, provided with officers varying from Surgeon-Major-General, Sanitary Engineers to Nurses and trumpeters, and with material appliances from transports and temporary shelters to cooking utensils; such a corps specially trained, disciplined and fully equipped would be ready for any and every immediate emergency service, whether casualty, epidemic, war or civic function where there is a large aggregation of people liable to accidents or overcome by heat.

With such Hospital and Ambulance Corps—a detail, company, platoon or battalion permanently established and

located in every city and town, ready to render relief whenever and wherever required and fully prepared to be called into requisition at a moment's notice to assist State and local Health Boards in the enforcement or execution of sanitary measures for public welfare and safety; or in the field, at the call of Civic or Military authorities to render aid to victims of calamities as exigencies may require—would inspire the confidence of the people and assure the safety and prosperity of the community.

This organization is not antagonistic to any Red Cross society, with whose operations it does not in any way desire to interfere; its intended scope being technical and professional, is far wider reaching and efficient, being a strictly medico-sanitary body (after the model of the Medical Department of United States Army and Medical Staff Corps of England) it is confidently expected that its services will be instantly forthcoming when required, as are those of a fire brigade—all things necessary in time of disaster being immediately forthcoming and ready from the simplicity with which its vast military machinery can be put in motion.

This corps stands the same relation to the community in protecting the life and health of the people as does the National Guard and State Militia in guarding the property of the citizen; with this essential difference, that it is self-supporting and without entailing either upon National or State Government the expense of equipping or maintaining.

The ravages of catastrophies, epidemics and famine are far more destructive to the welfare of a nation than any war ever was or can be. Particularly in these days of our activity in the additional channels of infection—our colonial possessions—the Phillipines, Cuba, Panama.

Let us hope that the Knights Hospitalers of old, will live again in this brotherhood of scientific aid and relief as befitting this progressive twentieth century, and perils by land, and perils by sea, railway crashes, floods, conflagrations, earthquakes, volcanic eruptions, tornadoes, pestilence, famine and all other disasters will be shorn of half their horrors. From no other class of men is this blessing so likely to come as from the medical profession.

NATIONAL VOLUNTEER EMERGENCY-SERVICE MEDICAL CORPS.

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M. A., M. D., LL. D.,
Surgeon-Major General Commandant.

BRIGADIER-GENERAL PERCIVAL KUHNE,
Paymaster-General.

PROF. NICHOLAS SENN,
M. D., Ph. D., LL. D.,
President Advisory Medical Council.

Physicians, pharmacists, nurses and Medical Students are invited to become members, as it is desired to have representatives in every city and town.

Address all communications to National Volunteer Emergency-Service Medical Corps, temporary office, 225 West 106th Street, New York City, U. S. A.

[Written for the MEDICAL BRIEF.]

The Story of Adam and Eve.

BY C. A. WHITING, M. D.,
Los Angeles, Cal.

I notice in your June number a query from an Atlanta correspondent. I am by no means sure I can answer the question any better than the questioner could himself, but it does not seem to me that the Adam and Eve story deserves to be denominated a "lie." While I have no faith whatever in the story as a matter of history, I look upon it as an attempt, even if a somewhat crude one, to explain some of the phenomena of life. I regard it as a Jewish myth, comparable with the Greek and Roman myths, and it seems to me that if we make an unprejudiced study of Greek, Roman and Jewish myths that we must admit that the Jewish myths are superior to either of the others. It is unfortunate that the Jewish myths have become so entwined with our religious ideas, but the fact that they have should not blind us to their beauty and value.

So far as I am able to get at the truth, no historian pretends to know anything of the origin of the story referred to. The probability is that in some form it far antedates all written legend.

[Written for the MEDICAL BRIEF.]

Small-Pox.

BY GEORGE R. TUBBS, M. D.,
Plainville, Ind.

In reply to Dr. Feister, in February BRIEF, will say that in January, 1901, small-pox appeared in Somerset, Ky. It was not at first recognized, but was called chicken-pox by some of the physicians, and one old doctor of many years' experience said he had "some of the worst cases of eczema he ever saw."

After a number of such cases had recovered, a young man, a clerk in a dry goods store, was recognized to have small-pox in a severe form. The doctors of the town then began to bestir their diagnostic abilities, and nearly every one had or had had a case of small-pox.

The Secretary of the State Board of Health visited the town and declared the "chicken-pox" and "eczema" to be small-pox, and gave the town a very few days in which to be vaccinated; which was quickly and thoroughly done.

The chief cause of the physicians' failing to recognize the disease was that none of the twelve physicians of the town, with one exception, had ever seen but very few cases. I had only seen one case and that was during my second year in the medical college.

A small-pox hospital was established at the edge of the town, and I was given charge of it. We had in it, during the two months of its existence, about fifty patients.

Most of these had not been vaccinated, and a large part of those that had been were vaccinated only a day or two before they developed the disease, and some of them the same day, and not one of them with success. Four of the patients who had very light attacks had been vaccinated from twenty to thirty-five years.

One old negro woman, whose son was one of the first cases recognized, was sent to the hospital under detention, and for some reason was not vaccinated before being sent there, and I did not know it until she was ready to leave. (This may seem to be carelessness on my part, but the physicians were in the habit of vaccinating everybody in an infected household, and I supposed this had been done in her case.) She slept with her grandson, who had small-pox, and in the room with three other patients, besides visiting other rooms. She was our cook, and let me here pay tribute to Aunt Lizzie Woods' cooking. It was as much help to many of the patients as any medicine given.

There were in the hospital, under detention, fifteen or twenty who had recently been successfully vaccinated, and not one took the disease. My immunity was due to recent vaccination.

There were no deaths in the hospital, though we had some severe cases there.

But among the cases who would not go to the hospital, being allowed to remain at their homes under quarantine (their houses being some distance from any other), and also cases scattered through the country, there were four deaths.

The absence of mortality in the hospital was not because of a more skillful physician there than was treating the other cases, for the town has some unusually able physicians for a town of five thousand inhabitants, but was caused by more constant care and careful nursing.

The nurses employed outside of the hospital were white men and negroes, who had the very least ideas of nursing, and many of them would take the patients' medicines themselves, especially if it was whisky.

The physicians, too, could not give the attention necessary to the successful treatment of a case of small-pox, without injuring their other practice. A sick man, as a rule, does not want a doctor to come to see him right from a case of small-pox. For this reason a physician will make no more visits than he thinks very necessary, and he is apt to not visit the case at least once every day, as he should.

I know of one case of death from small-pox that was caused from over-feeding. The nurse was told to give the patient egg-nog, and he gave it for three days, and it disagreed with him from the first, but the nurse was too ignorant to stop giving it. When the doctor did see him it was too late.

The physician should always charge extra for treating a case of small-pox, and

then he will often suffer a serious loss, which it will take him some time to regain.

This fear of the physician carrying the infection of small-pox is not without some foundation, when we realize the gross carelessness of some physicians in the matter of changing clothing and disinfection after being with the disease. I know one man who stands high enough in the profession to be secretary of a State board of health, who visited a dozen or more cases of small-pox in an official capacity, and without the least change of clothing or disinfection, boarded a crowded train for a large city, one hundred and fifty miles away, and who said to a doctor who offered facilities for disinfecting himself, "I never do that," or words to that effect. Of course, the fear of some of the laity is nothing short of the ridiculous. I know an old lady of intelligence who would not let her grandson talk over the 'phone to the small-pox hospital for fear he would take the disease.

When a disease breaks out in a community that resembles small-pox, and the physicians are not sure of its identity, an expert should be sent for who can settle all dispute, and if it is small-pox an epidemic can be averted by the proper means.

The treatment is symptomatic and careful nursing, which can best be carried out in a hospital.

[Written for the MEDICAL BRIEF.]

Hints on Treatment of Typhoid Infections.

BY G. P. WHEELER, M. D.,
Jenkins, Mo.

While others have probably changed their mode or way of treating "Typhoid Infections," my mind has undergone a wonderful change on the treatment of it. Yet there is no correct way, only to give each case what it needs. The so-called intestinal antiseptics have their share in the "therapeutics of typhoid." Yet it still remains true that they often fail to do good. Taking into consideration the complications and sequelæ that take place in so grave a disease, and especially gall-bladder complications and sequelæ, it would seem more rational to use some laxative all the way through; that will thin and probably increase the flow of bile. Until recently I have been fearful of giving anything to empty the intestinal canal after the first week, but now am convinced there is no use to cross bridges until we get to them. Meaning, of course, that I was fearful of bursting a hole through the gut, even with laxatives. Treated a case recently that complained of considerable pain in region of lower part of liver. During second week I gave tablets, one-eighth podophyllin, one-eighth nux, with cascara, every six hours until movement of bowels was obtained, and repeated treatment every third day with one-tenth grain mild chlor. with each tablet. He, after a week, seemed all right about that complication, but on the twenty-eighth day of his sickness he was suddenly taken with severe pains in the stomach, as he called it, but on inquiry, found the pain started from the region of gall-bladder. So I repeated my laxatives with hot applications. Will state that during the last paroxysm of pain he got sick at the stomach and vomited, and pain ceased at once. Am of the opinion that a gall-stone passed. He is now convalescing, though must say I look on the case with some uneasiness. I have seen quite a number treated with salol, naphthaline, bismuth subnitras, turpentine, etc., and then go on to the grave, just like other people, until I have little or no faith in such, only as such remedies may be indicated by complications. Possibly some of them are doomed to die, do what we may. Of course, mur. acid is a useful remedy, as it supplies what nature has failed to do. Any severe case—meaning where there is any prostration to speak of, strychnine, digitalis and some whisky, beginning in the second week, with most of the cases, should not be lost sight of. If a good circulation was kept up judiciously, maybe there would not be so many cases of sudden death from thrombosis, embolism, gangrene, etc.

Enclosed please find two dollars for the MEDICAL BRIEF for two years. I would not be without the BRIEF, and consider it the best medical journal published.—W. S. DONEHOO, M. D., Chester, W. Va.

Book Notices.

A TEXT BOOK ON PRESCRIPTION WRITING AND PHARMACY, with Practice in Prescription Writing, Laboratory Exercises in Pharmacy, and a Reference List of the Official Drugs, Especially Designed for Medical Students. By Bernard Fantus, M. D., Professor of Materia Medica and Therapeutics, College of Physicians and Surgeons of Chicago, the College of Medicine of the University of Illinois; also Professor of Materia Medica and Therapeutics, Jenner Medical College of Chicago. Chicago: Chicago Medical Book Co., Publishers. Price, $3.00.

A book on the correct methods of prescription writing should appeal to the practitioner and student. In the first part is given the form and language of prescriptions, the determination of quantities the composition and the ethics. There are one hundred and twenty problems in this work in order to educate those who are out of practice on this subject. In the second part will be found the various forms of medicines from the standpoint of the prescriber rather than from the pharmacist. In the third part a reference list is given, in which the Latin name of the drug, its pronunciation and its genitive are given; also a short description of the solubility, the incompatibles, the uses, the dose, the official preparations, and the most popular form of administration; also the best method of disguising taste, etc. The list is intended to furnish the student the information necessary for the elaborations of the problems in prescription writing that he finds in this work, as well as those that will come to him in the future.

DISEASES OF THE NERVOUS SYSTEM RESULTING FROM ACCIDENT AND INJURY. By Pearce Bailey, A. M., M. D., Clinical Lecturer in Neurology, Columbia University, New York City; Consulting Neurologist to the Roosevelt, St. Luke's, and Manhattan State Hospitals, etc. New York and London: D. Appleton & Co.

The first edition of this work was printed in 1898. Owing to the thorough revision made, the entire work had to be re-set, and, therefore, it is printed from new plates. The title has been changed from "Accident and Injury and their Relations to Diseases of the Nervous System," to the above title. This was done to make it more comprehensive in its scope. A number of new illustrations have been added and many old ones replaced by new plates. Dr. Bailey is a recognized authority on the subject covered in his book, especially on medico-legal questions. The author, in his preface, says: "Those subjects most fully described in text-books on surgery are dismissed with briefest mention. The late effects of brain injuries, for example, receive more notice than the acute symptoms." This alone shows that such a work is of the greatest interest to the general practitioner as well as the surgeon and neurologist.

THE MODERN MATERIA MEDICA. The Source, Chemical and Physical Properties, Therapeutic Action, Dosage, Antidotes and Incompatibles of all Additions to the Newer Materia Medica that Are Likely to Be Called for on Prescriptions. New York: *The Druggists' Circular*. Price, cloth, $1.50; heavy manila paper, $1.00.

The druggist is often called on to fill a prescription containing a remedy that he not only has never heard of, but of which he knows less as to its combination. A work of this nature at hand, his labors are light, as a glance will give him the key to many remedies that are little heard of in the regular lines of business. Of course, the combinations that are well known to the druggist have no place here, or the work would be too bulky. Only those little known are included, and thus the pharmacist can gain a knowledge that might cost much labor under ordinary conditions. It is well for physicians and druggists to add such works to their libraries for reference.

PERJURY FOR PAY. An Exposé of the Methods and Criminal Cunning of the Modern Malingerer. By Willis P. King, M. D., Ex-Assistant Surgeon of the Missouri Pacific Railway System. Kansas City, Mo.: The Burton Company. Price, $2.00.

The dedication of this work reads: "To those rare individuals, the honest litigants in personal injury litigation—the men and women who do not want something for nothing; who, though perhaps seriously injured, are willing to go upon the witness stand and swear to the truth concerning it—adding nothing and noth-

ing concealing—this book is admiringly dedicated." The reasons for Dr. King writing this book is evident by the stories told on the witness stand by those who are interested in the case—evidence that at times was drafted in the fertile brain of some individual who was only interested from a pecuniary standpoint. The worthy have to be condemned by the untruthful evidence of the majority.

PHARMACOLOGY AND THERAPEUTICS. By Reynold Webb Wilcox, M. A., M. D., LL. D., Professor of Medicine at the New York Post-Graduate Medical School and Attending Physician to the Hospital; Consulting Physician to the Nassau Hospital; Visiting Physician to St. Mark's Hospital; Ex-President of the American Therapeutic Society; Fellow of the American Academy of Medicine; Vice-Chairman of the Revision Committee of the United States Pharmacopeia, etc. Sixth Edition. Philadelphia: P. Blakiston's Son & Co. Price, $3.50.

This work is based on the fifth edition of White & Wilcox's "Materia Medica and Therapeutics." The eighth decennial revision of the Pharmacopœia has given the authors the opportunity to divide the work into two separate divisions, the first being devoted to materia medica and pharmacy, and the second to pharmacology and therapeutics. We believe that the separation will be congenial to the physician and the student. There is a complete list of drugs and preparations, without special description, except as to dosage, and very elaborate accounts of their physiological action and therapeutics. The two works combined offer, it is believed, a very complete and "up-to-date" presentation of the whole subject of materia medica and therapeutics.

THE ECLECTIC PRACTICE OF MEDICINE. By Rolla L. Thomas, M. S., M. D., Professor of the Principles and Practice of Medicine in the Eclectic Medical Institute; Ex-President of the National Eclectic Medical Association; Consulting Physician to the Seton Hospital; Member City, State, and National Eclectic Medical Association, etc. Illustrated. Cincinnati: The Scudders Brothers Co., Publishers. Price, cloth, $6.00; sheep, $7.00.

This work on Eclectic Medicine is certainly a work that should be judged by the merits of its worth. It is written by the Dean of the Eclectic Medical College of Cincinnati, and as such is authority on Eclectic Medicine. It is so full and complete in this line that all classes of medicine could benefit along the line of thought, because the drug action of plant life, and the specific action along some of them, should have the attention of all careful practitioners. The etiology and pathology must necessarily be the same in all works on practice. The practical test of a work on medical topics is its teaching of subjects on medicine that has curative properties. This is a most excellent work and deserves all the praise we can give.

MANUAL OF DISEASES OF THE EAR, NOSE AND THROAT. By John Johnson Kyle, B. S., M. D., Clinical Professor of Otology, Rhinology, and Laryngology in the Medical College of Indiana, Department of Medicine of Purdue University; Otologist, Rhinologist and Laryngologist to City Hospital, St. Vincent's Hospital and City Dispensary, Indianapolis; Fellow of the American Fellow of Ophthalmology and Oto-Laryngology, and Member of the American Laryngological and Otological Society; Late Major and Surgeon U. S. Vol. With one hundred and sixty illustrations. Philadelphia: P. Blakiston's Son & Co. Price, $3.00.

This work is elegantly bound in flexible morocco cover, gilt edges and round corners. The contents of the book are fully in keeping with the elegance of binding. The illustrations (some in colors) and the numerous formulæ will create a sale among practitioners when seen. Every physician will need this work for its exactness in etiology, pathology, symptomatology, diagnosis, prognosis, and treatment of the many diseases which afflict the ear, nose, and throat. The author's name is a guarantee of exactness in treating these diseases.

THE PRACTICAL MEDICINE SERIES. Comprising Ten Volumes of the Year's Progress in Medicine and Surgery. Vol. II., General Surgery. Edited by John B. Murphy, A. M., M. D., LL. D., Professor of Surgery in Rush Medical College (in affiliation with the University of Chicago). Chicago: The Year Book Publishers. Price, $2.00; price of the ten volumes, $10.00.

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Editorial.

Misstatements.

No doubt some doctors believe the statement that organic preparations can be accurately analyzed. Persons making these statements either know nothing whatever about chemistry or they are simply lying. Tinctures and preparations made from hundreds of plants can not be analyzed, because there are no known tests for a great many of them.

The campaign waged to compel the manufacturer to print the formula on the bottle is in the interest of concerns who wish to make imitations of original and established preparations.

[Written for the MEDICAL BRIEF.]

Inflammation of the Maxillary Sinus.

BY W. F. A. SCHULTZ, LL. B., M. D., D. M. D.,
Former Professor of Oral Surgery in the Dental Department of Barnes University.
St. Louis, Mo.

There is little question but that all writers are agreed that the cause, in a great measure, must itself suggest the treatment. Where there are local disturbances in the nose—for example, polyps, ulceration, rhinoliths, infection from other suppurative points—proper measures must be employed to correct them. Keeping this fact constantly in mind, Hajek made it his rule to inspect the meatuses scrupulously, as the first step in ascertaining the cause, in order to apply treatment. Grunwald is strict in recommending that, where suppuration exists in two or more spaces, the

higher one, in place of position, should receive the earlier and more vigorous interference.

Where teeth are suspected as a factor, or where they are believed to be the only factor, treatment with respect to them receives different consideration from different operators. Turner would annihilate such without reserve, whether it could be ascertained or not that they were excitants, so long as they betray symptoms of disorder. Where repeated trouble from the teeth has effected permanent alteration, or necrosis of the bone, I should recommend extirpation, otherwise not. In event pyorrhea alveolaris has caused sinusitis from extension of suppuration, much conservatism may be exercised. During the early stages of pyorrhea, efforts at preservation of the teeth should be made. The radical custom of promiscuously extracting a tooth, whether diseased or not, in order to secure problematic drainage of the sinus, can not be too strongly condemned. Where the causative factor of sinusitis resides in the maxillary antrum, or where permanent alteration of the membranous or osseous structure has taken place, the conditions themselves will arbitrate the course of procedure. I believe that an entrance can be made through the external wall above the first molar tooth, or thereabouts, which will have several important clinical advantages over the other, and at the same time it is devoid of the ill-consequences effecting the impairment of the action of the levator angli oris muscle which follows the destruction of the bone that serves as an attachment for that muscle. Extraction of a tooth in order to reach the sinus has possessed no other value than that of dissipating the cause where the primary cause was dependent on the tooth thus removed. Extraction for the purpose of drainage had caused much disappointment, for in many cases thus treated the patient failed to secure more than temporary improvement, and to which was added, in other cases, the dissatisfaction of having a permanent hole in the maxilla.

Having entered the antrum and done what was found necessary, I invariably pack the cavity with antiseptic gauze. The use of drainage tubes I believe to be an error. It is responsible for too many permanent openings in the jaw. For temporary drainage of a week the gauze serves admirably. There is no need for longer drainage if the operation has accomplished that for which it was undertaken; if not, the operation was a failure, and needs repeating. I seldom continue the pack longer than a few days. After that I close the wound. In the chronic type of the trouble the gauze may be dispensed with after three or four days. I make it a rule, however, to remove and to apply fresh treatment after the first twenty-four hours.

The minor procedure involves the process of irrigation; and this may be resorted to in cases not owing to any persistent cause, or rather of a transitory character. I most commonly conduct the irrigation through the ostium maxillare, employing a bulb syringe with a long nozzle. This instrument affords the adaptation to convert a fairly complicated technique into a comparatively simple one by serving the two-fold purpose of cannula and injector. With this instrument in my hands I can feel the course necessary to be followed quite securely. When I have found the opening I never let the opportunity escape without doing complete work, applying more or less force to the stream, as I think necessary. It must be said, of course, that the nozzle is bent at the extremity.

In performing the irrigation method, Grunwald always introduces the solution through an orifice that he makes with a puncture below the inferior turbinated body, near its anterior extremity. I believe he always inserts a rubber tube as a nozzle, instead of a metal cannula.

It is scarcely necessary to mention anything about the solutions. Those who have performed on the maxillary sinus are sufficiently acquainted with the solutions which act best on the mucous surfaces.

3732 Olive Street.

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[Written for the MEDICAL BRIEF.]

Arterio-Sclerosis and Its Treatment.

BY FRANCIS JAMES CHARTERIS, M. B., CH. B.,

Assistant to the Professor of Materia Medica and Therapeutics in the University of Glasgow; Physician to the Glasgow Western Infirmary and to the Glasgow Central Dispensary; Editor of Charteris' Practice of Medicine. Glasgow, Scotland.

In a clinical sense we recognize arterio-sclerosis as a chronic progressive affection which reveals itself partly by demonstrable alteration in the vessels, and partly by disturbed function on the part of important organs subserved by diseased arteries.

The anatomical basis of the disease consists in an altered condition of the walls of the arteries, and, in some cases, of the arterioles. With this may be associated secondary changes in various organs.

Arterio-sclerosis is, essentially, a diffuse lesion. It may affect only a limited area of the circulatory apparatus, or it may be universally distributed. The whole canal wall is affected. There is thickening of the intima, while the media is always altered. In some cases the alteration consists merely in hypertrophy of the muscular fibers, in other instances these muscle fibers are atrophic, and there is a preponderance of fibrous tissue, or there may be simple trophy of the muscular elements. The external adventricle coat is almost invariably thickened. The disease is thus a combination of hypertrophy and fibroid change. The hypertrophy in the median coat is early developed and widely distributed. The arterio-sclerotic changes lead to certain definite results in the vessels. The elasticity is greatly impaired; owing to the thickening of the intima, the lumen of the vessel is curtailed. Further, the thickening in the walls causes the vessels to be less capable of adapting themselves to the fine variations in caliber which, in healthy vessels, are constantly going on, and regulate the supply of blood. The arterio-sclerotic vessel is found to be less capable of resisting internal pressure. Tested with columns of mercury, it is found that such altered arteries readily burst even under comparatively small strain, and this may explain the frequency of hemorrhages in arterio-sclerosis.

The thickening of the vessel coats can be recognized from the feel of the vessel. The artery can be distinctly felt as a firm cord. On transverse section the vessel's wall is seen to stand out as a firm ring.

Unfortunately, the factors which induce arterio-sclerotic changes are but imperfectly understood. The essential factor is something which leads to increased tension inside the artery. In some cases this depends upon the accumulation within the blood of deleterious substances from defective renal elimination. Under the continued irritation of these the intima

is shriveled, the muscle fibers contract and, eventually, under the constant strain, hypertrophy.

Independently of renal disease arterio-sclerosis may arise from chronic intoxication of various origins. Thus, chronic lead poisoning is associated with thickening of the arteries. In rabbits the intravenous injection of adrenal extract is followed by changes analogious to those produced by atheroma and arterio-sclerosis. The prolonged abuse of alcohol and tobacco are also well known. Further, there is increasing evidence that there is an ultimate causal connection between arterio-sclerosis and various infectious diseases. In the case of syphilis and rheumatism this interdependence has long been recognized, while Cowan and other recent writers have shown that it also holds true for many of the acute infectious diseases. In certain families we must recognize an hereditary tendency towards rigidity of the arteries. In most cases it may be said that the cause which induces the arterio-sclerosis is one which is operative over a prolonged period. The progress of the disease is slowly progressive. He has pointed out that arterio-sclerosis is a diffuse lesion, but certain factors may lead to the vessels, in a given area, being specially affected. Thus, the severe manual labor of navvies leads to the vessels of the upper extremity becoming the chief seat of the disease. In old age we very commonly find arterio-sclerotic changes. The change is not universally the result of senility. It is equally possible that the fact that such a man has attained old age, has permitted a slowly operating cause to induce the alteration in the vessel wall.

The very earliest symptom of arterio-sclerosis is a persistent heightened tension in the arterial system. This increase of tension persists throughout the whole course of the disease, up to the stage when the heart commences to fail. This peripheral increase of tension can be made out by palpation of the radial and other superficial arteries, or by auscultation of the heart, which shows the characteristic loud clanging accentuation of the second aortic sound. The direct measurement of the arterial pressure, or the use of sphygmographic tracings, is less reliable. In most advanced cases the arterial wall prevents distinct alteration. It feels harder and thicker; even when the pulse wave is totally obliterated it is still possible to recognize the artery under the finger. When calcification supervenes, the artery feels rigid and incompressible, and gives the same sensation as if we were rolling a thin pipestem under the skin. In many cases, in addition to this thickening of the arterial wall, we find a distinct tortuosity. The artery no longer follows a straight line, but is twisted and forms irregular curves. These changes are readily detected in the radial and brachial arteries. Along with this evidence of change in the arterial system we frequently find some disturbances of function on the part of the other organs. The patient complains of some shortness of breath, the heart is hypertrophied and slightly dilated, the amount of urine passed is increased. The patient may be required to rise once or twice in the night to empty his bladder. A slight degree of albuminuria is a common symptom. The brain may suffer in various ways. Frequently there is persistent headache and giddiness. The patient is no longer fit to undertake prolonged mental effort. Altered nutrition of the medullary centers may reveal itself in Cheynestoke's respiration. Finally, we have the signs of failing compensation. The hypertrophied heart gets worn out and commences to dilate. The valvular mechanism becomes incompetent, edema and dropsy supervene and the patient dies in a waterlogged condition. On the other hand, the arteries may give out before the heart fails. In such cases we have hemorrhages from the nose, or from the hemorrhoidal veins, or minor hemorrhages into the retina. The blood vessels supplying the brain may give way, and we may have apoplectic seizures, or transient attacks of aphasia, with some weaknesses in the legs, may arise from slight circumscribed softenings of the brain tissue. In another type of case the kidneys give out, and the patient sinks into a somnolent state, with muscular twitching, or even marked uremic convulsions.

Thus, we see that the clinical manifestations of arterio-sclerosis are very varying, depending upon the localization of

the sclerotic changes; we may have the function of different organs affected. But in the later stages the varying types tend to approximate and, finally, as a general rule, the clinical picture is that of failing heart. In many cases, of course, the disease does not get this length. Arterio-sclerotic patients are at any stage of the disease liable to be carried off by an intercurrent affection. Various types are recognized.

In the senile form of the disease the symptoms gradually develop at an advanced age. Without any definite history of deleterious cause, such patients gradually show marked sclerotic changes in their peripheral arteries. But, though these may be extensively involved, the senile form of arterio-sclerosis is attended with wonderfully little disturbance of function or impairment of health. The cardiac form of the disease appears earlier in life, between the fiftieth and sixtieth year, and in many instances we are able to trace a definite cause in syphilis, abuse of alcohol, or hereditary tendency. In the earlier stages anginous attacks, cardiac asthma and hypertrophy of the heart predominate, and give place to cardiac irregularity and signs of heart failure. These cases are not of favorable prognosis. The cerebral type is associated with headache, giddiness, and aphasic turns.

The treatment of the condition resolves itself into two chief objects. If the nature of the changes is recognized early enough treatment becomes essentially prophylactic. In such cases we try to prevent any further development of the disease by taking measures which render any influences which is likely to accentuate the disease. Thus, people who belong to families which are especially liable to arterio-sclerosis should lead hygienic lives. They should avoid excess in diet. A mixed diet is suitable for such individuals, but it must be moderate in amount. The use of alcohol is dangerous. It is best to restrict it as far as possible. In particular, the patients must take care that they do not overexert themselves; prolonged muscular effort is contraindicated. The chief weight is to be laid upon the avoiding of any known cause which will produce the disease. Tea, coffee and tobacco should be restricted. The bowels must be carefully regulated, either by means of suitable diet or by the use of some simple purgative, such as a gentle saline. Not only muscular exercise must be supervised, but even to a greater extent it may be necessary to avoid excessive intellectual strain.

When the arterio-sclerotic changes are markedly developed, our treatment is comparatively inert; we can hardly hope to effect a cure. At most, we aim at retarding the further development of the disease. The only drug which seems to exert a favorable influence upon the course of the disease is iodine. Given in the form of small doses of iodide of potassium or sodium it sometimes markedly benefits the patient. For this effect, however, it must be administered for long periods. The manner in which it acts is not definitely known. Formerly it was held that potassium iodide exerted a vasodilating action, which led to a reduction of the peripheral tension. Some years ago I was interested in this action, but was unable to confirm this claim. Possibly the iodide exerts some beneficial action through influencing the secretion of the thyroid gland. Romberg holds that the action of potassium iodide is exerted on the blood itself rather than on the arterial wall. He states that it reduces the viscosity of the blood. It has been suggested that a diet poor in calcium should be employed in those cases of arterio-sclerosis which are associated with marked calcification. But it seems unlikely that much good will result from such a line of treatment. Trevnecek has compounded a serum which he claims exerts a direct influence upon the deposits of lime.

Combined with this medicinal treatment we must take measures which will insure that no preventable noxious influence will be allowed to act upon the tissues. The diet should be strictly supervised. There is little doubt that excessive consumption of butcher's meat is injurious. Haig has shown that the effect of a meat diet is to raise markedly the blood tension. Consequently, the diet sheet should be overhauled and the allowance of butcher's meat rigorously cut down. Alcohol is even more injurious and should be excluded entirely. Many authorities con-

sider that indulgence in tobacco is one of the factors which induce arterio-sclerotic changes.

By a carefully ordered life the onset of serious symptoms may often be delayed. In many cases, unfortunately, we are not able to arrest the course of the disease and, sooner or later, we find that we have to treat definite symptoms. If the sclerosis involves the coronary arteries we may be called upon to deal with anginous attacks at comparatively early stages of the disease, even before there is much evidence of peripheral sclerosis. In such cases our aim must be to avoid precipitating an attack. All excessive muscular strain must be avoided. Particular attention should be paid to the bowels. The prophylactic use of small doses of nitroglycerin is of distinct benefit. For the actual attack amyl nitrite may be inhaled. The persistent headache which is so frequently complained of, may be mitigated by the use of nitroglycerin. In many cases profuse epistaxis may occur. In itself epistaxis is not unfavorable. It is beneficial in so far as it reduces the high tension, but frequently it is very difficult to arrest the bleeding, and it may be necessary to plug the posterior nares. Excessive loss of blood must be prevented, as the recuperative power of the tissues is not marked, and after a severe hemorrhage the patient may suffer for a long time from anemia. Temporary aphasic attacks, associated with disturbed sensation in a leg or arm joint, to small cerebral thromboses interfering with the nutrition of minute areas of the brain. They require no special treatment, further than rest in bed for a day or two, and the use of a saline purge. Their importance consists in the warning which they convey of the imminent danger of severe cerebral hemorrhages. The patient should be warned against the danger of violent effort, mental or muscular; he must avoid all actions liable to induce sudden rise of blood pressure. He must attempt no heavy lifts, give way to no violent passion, and carefully avoid straining at stool. Should a severe hemorrhage supervene, despite all care, the necessary treatment must be initiated.

If the patient escapes intercurrent diseases and complication, and if the course of the disease be not arrested, sooner or later the arterial changes become less important, and the clinical picture becomes dominated by the increasing embarrassment of the heart. Dilatation supervenes on hypertrophy and, in its turn, gives rise to venous engorgement and edema. Digitalis and diuretics are now indicated, combined with absolute rest in bed, and milk diet. These measures may postpone the inevitable termination for a time, but not for long.

[Written for the MEDICAL BRIEF.]

The Physiological Action of Berberine.

BY C. D. F. PHILLIPS, M. D., LL. D. (ABERD.), LL. D. (EDIN.), F. R. S. E., F. R. C. S. E., M. R. C. P. (LOND.),

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THE PHARMACOLOGICAL ACTION OF BERBERINE.

Berberine was first obtained from the bark of the *Xanthoxylum clava Herculis*, by Chevallier and Pelletan[1] in 1826, and named by them xanthopicrit Büchner[2], in 1835, isolated from the root of the berberis vulgaris an alkaloid, to which he gave the name berberine, and Perrins[3], in 1862, showed that these two substances are identical. Since then it has been found in calumba root, in the rhizome of podophyllum peltatum of hydrastis canadensis, and in a number of other plants belonging to different natural orders.

When pure, it occurs in yellow acicular or prismatic crystals, having a bitter taste and neutral reaction, readily soluble in boiling water, very slightly so in cold water. Its salts are also yellow in color, and very insoluble in cold water.

Previous researches have shown that one-half to one grain, administered hypodermically to rabbits caused death after some hours, with muscular tremors, paresis, especially marked in the hind

(1) Jour. de chimie med., Vol. II. 314.
(2) Report Pharm., Vol. 52, 1, 56, 177.
(3) Jour. Chem. Soc., XV. 339.

limbs, and great embarassment of the respiration.

The alimentary canal was not affected when the substance was given subcutaneously.

In dogs, berberine, by mouth, produced symptoms of severe gastro-intestinal irritation, abundant watery and mucous diarrhea, marked salivation, general muscular tremors and paresis. The respiration was not markedly affected.

After death, the spleen was found to be much contracted, as was also the whole intestine; the abdominal organs generally

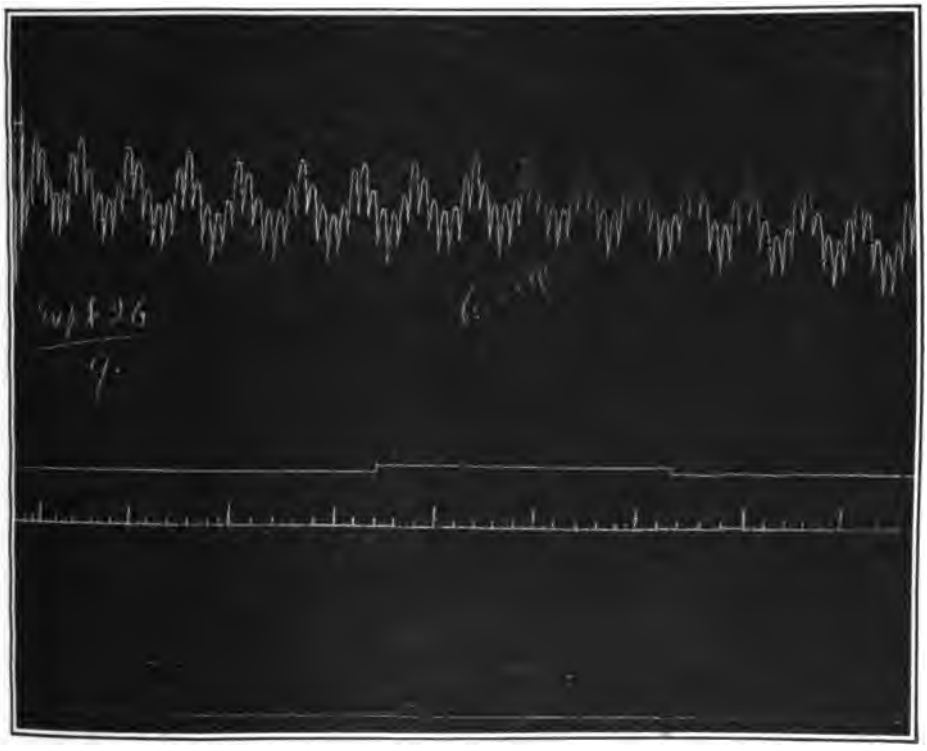

CHART A.

were much congested, and the heart was contracted. Cursi pointed out in an elaborate series of observations that locally, its action was irritating and that it readily causes chronic inflammatory thickening.

ACTION ON THE ALIMENTARY SYSTEM.

According to my observations, berberine exerts a very decided action on the alimentary tract when given by the mouth, but when given hypodermically, so much irritation is caused locally and such large quantities of fluid are required to dissolve it, that the slowness of its absorption renders its action very uncertain. In rabbits and dogs, the first manifestations after medium doses are profuse salivation with loose motions, followed by severe watery diarrhea and colic; great thirst and muscular tremors also occur.

After death from an overdose the intestines are found very much contracted, generally empty, or containing an abundance of mucous and watery fluid, the mucous membrane being very much inflamed.

There does not appear to be any direct action on the liver, as there is no increase in the quantity of bile produced, but the gall-bladder is usually found contracted.

ACTION ON THE CIRCULATORY SYSTEM.

When applied to the heart of a pithed frog *in situ*, the effect is not very marked. A solution of one in four hundred produces a slight slowing, the systole being prolonged, and the diastole apparently less complete; with stronger solutions stoppage occurs in systole.

Observations made on the detached heart with Williams' apparatus show that one part of berberine in five thousand parts of circulating fluid slows the heart and strengthens its contractions, the rhythm remaining perfectly regular, and the general character of the beat being unaltered. The blood pressure is a little increased, or may be unaltered.

Larger doses (one in two thousand five hundred) slow the beat very considerably, the systole becoming more prolonged and the diastole less complete. The pressure may be increased at first, but symptoms of cardiac failure soon begin to appear,

During the period when the blood pressure is rising, irregularity of the heart's action, if it has not previously occurred, is generally more or less pronounced, and though lasting only a few seconds at a time, recurs at intervals. This effect, however, seems to be due rather to stimulation of the cardio-inhibitory center in the medulla than to any direct action on the heart itself, since the irregularity never occurs if both vagi be divided. The rise of blood pressure which succeeds the primary fall is apparently due to the vaso-motor center being thrown into action and causing a constriction of the peripheral arterioles

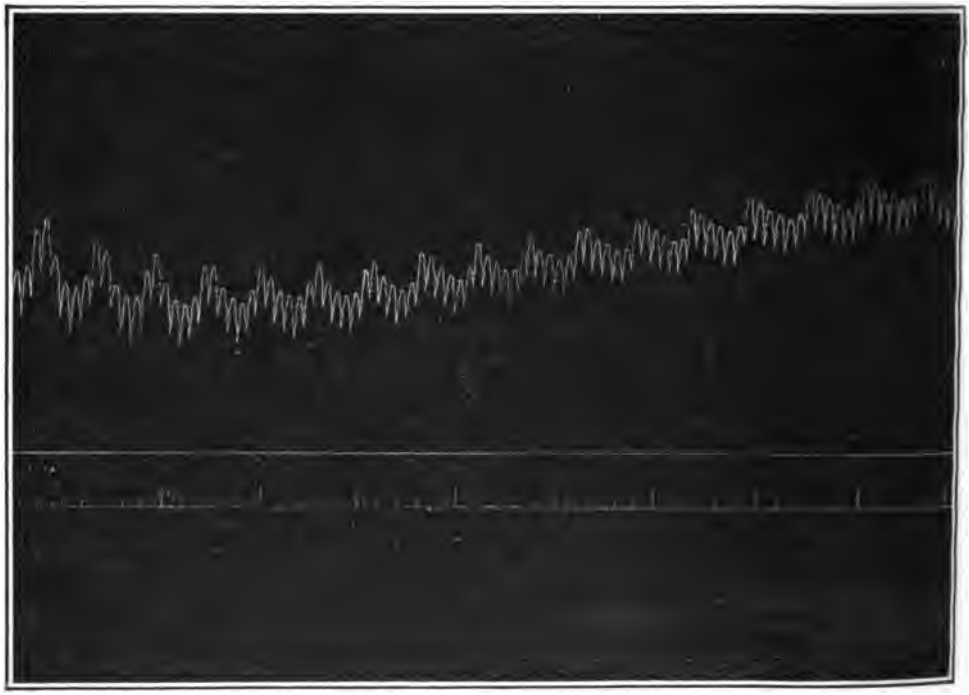

CHART B.

with irregularity of action and a rapidly falling pressure until death occurs with the heart in systole.

The action of the heart of warm-blooded animals appears to be very similar to that just described in the case of the frog. Intravenous injection of 0.025 to 0.03 grammes in cats, dogs and rabbits causes an immediate and rapid fall in blood pressure, with great slowing and more or less irregularity of action. These effects, however, are transient, and the pressure soon returns to normal, and then rises to somewhat above it.

throughout the body. It does not occur if the spinal cord be divided high up in the neck, the scarcely appreciable rise which then takes place being explained by the contraction of those vessels of the head and neck, the connection of which with the center in the medulla are still left unsevered. In this series of experiments the heart was found to have stopped in systole, although Guenste[4] and Falck[5] state that in rabbits they generally found

(4) De Columbino et Berberino Observaticnes. Marburg, 1851.

(5) Deutsche Klinik, 1854.

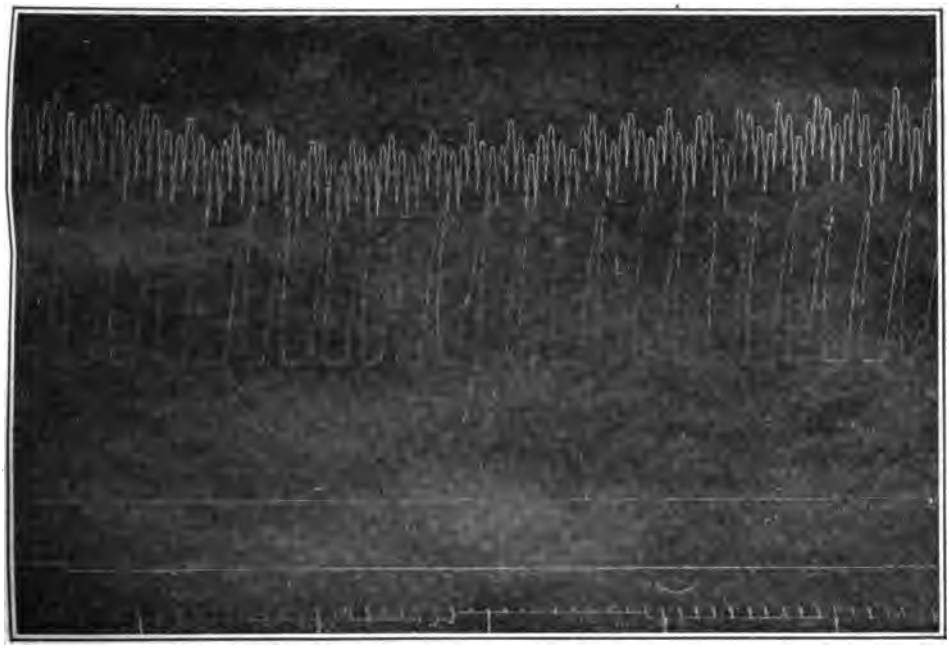

CHART C.

The tracing (C) shows the effects of the injection of ten minims of one-fourth per cent solution of berberine. The top line shows blood pressure, the second line respiration, the third line is the abscissa, the fourth line is the injection line, whilst the bottom line is the time in seconds. It will be noted that the effect on respiration is slight.

it dilated and engorged. The left ventricle is always contracted and empty, but a small amount of blood may be found in the right side of the heart.

These conclusions are founded on a considerable number of experiments, spread over a long period, illustrated by many hundreds of tracing. This evidence in full it is impossible to adduce in the course of this short paper, but I will mention one or two observations which may be regarded as typical.

Experiment XXVI—The subject was a dog, weighing twelve pounds. Morphine and ether were used as anesthetics, and the experiment was painless. The injections of the drug were thrown into the external jugular vein. The blood pressure was recorded in the left carotid. Cannulæ were placed in both ureters and the urine was measured as collected in c.c. measures. Sugar was found to be present in the urine, probably due to the morphine. The following table gives an abstract of these observations:

Time.	Blood Pressure. m.m.	Urine.	Remarks.
1.15—1.30	148-150	9.95 c.c.	Cannulæ in each ureter.
1.30—1.45	146-148	7.95 c.c.	Trace No. 1.
1.45—2.00	146-148	6.5 c.c.	No. 2.
2.00—2.15	160-170	5.0 c.c.	Trace No. 3.
2.15—2.30	145-155	3.6	No. 4.
2.30—2.45	128-140	2.95	No. 5.
2.50 intravenous injection of 30 m.			of ¼ per cent sol. of Berb.
2.45—3.00	95-150	1.8.	No. 6 and 7.
3.5 injection of 30 m. of		berberine.	
3.00—3.15	105-158	4.75	No. 8 and 9.
3.15—3.30	120-145	5.4	No. 10.
3.35 injection of 30 m. of		berberine.	
3.30—3.45	88-152	3.4	No. 11 and 12.
3.50 injection of 30 m. of		berberine.	
3.45—4.00	80-150	3.45	No. 13 and 14.
4.00—4.15	130-136	3.55	No. 15.
4.25 injection of 30 m. of		berberine.	
4.15—4.45	90-144	4.35 in half an hour.	No. 16 and 17.
4.50 injection of 30 m. of		berberine.	
4.45—5.00	90-135	2.7	No. 18 and 19.
5.00—5.15	110-125	2.0	No. 20.
5.15—5.30	125-138	2.3	No. 21 and 22.
5.35 experiment stopped.			

The experiment is illustrated by the following tracing, which shows the influence or blood-pressure of an injection of thirty minims of a one-fourth per cent solution of berberine. For convenience of

reproduction the chart has been divided; but A and B are continuous.

This chart is perfectly easy to understand, and is a portion of trace No. 9, referred to in the table.

The top line shows the blood pressure. The second line is the dose or injection line, the rise showing when the drug was administered. The third line is the time line. The bottom line is the abscissa. The effect of the drug is apparent for there is a well-marked fall in the blood-pressure.

RESPIRATORY SYSTEM.

Experiment XXIX—Was made to test the influence of the drug on respiration. The following table gives the details:

Time.	Blood Pressure. m.-m.	Heart.	Resp.	Remarks.
3.49′ 30″—40″	112-118	15	4	
49′ 50″	110-118	15	4	
3.50′ 00″	110-118	15	4	
50′ 10″	110-116	15	4	Injection of 10 m. of berberine ¼ per cent sol. into vein. Lasted over 27 seconds.
50′ 20″	104-110	16	4	
50′ 30″	90-104	17	4.5	
50′ 40″	90-96	17	5	
50′ 50″	90-100	19	4.5	
3.51′ 00″	92-106	18	4.5	
51′ 10″	92-110	17	4	
51′ 20″	96-114	16	4	
51′ 30″	98-116	17	4	
51′ 40″	108-112	16	4	
51′ 50″	106-110	15	4	
3.52′ 00″	110-116	16	3.5	
52′ 10″	108-114	15	4	
52′ 20″	110-116	15	3.5	
52′ 30″	98-118	16	4	
52′ 40″	110-118	16	4	
52′ 50″	110-118	16	4	
3.53′ 00″	110-118	16	4	

Berberine does not appear to exert any marked effect upon the respiratory system, excepting in the case of rabbits, which appear to be more susceptible. In them, small doses injected into a vein cause a gentle excitement of the center in the medulla, and this increase in its activity manifests itself by the respiratory movements becoming quickened. Large doses cause respiratory embarassment to a very considerable extent, great irregularity, occurring not only in the frequency, but also in the fullness, of the inspiratory efforts. The serious cardiac and vaso-motor disturbances, already alluded to as being produced by the exhibition of this drug in quantity, render it impossible to recognize how much of the respiratory embarassment may be due to a direct action on the center in the brain alone, or to the vascular disturbance.

That the action is directed rather upon the medulla than upon the terminations of the vagi in the lungs is readily recognized, since the influence upon the respiratory functions is still well marked, even after both vagi have been divided.

URINARY SYSTEM.

The methods employed to appreciate any special action that this drug might exert upon the function of the kidneys were the following:

First—To collect and measure the quantity of urine secreted by the kidneys for several hours previous to the exhibition of the drug, and then to observe the alteration in the quantity of urine eliminated during and after the intra-venous injection of different solutions of berberine. This was readily ascertained by placing a cannula in both of the ureters and collecting the urine as it was secreted, this method being much more reliable than that of emptying the bladder at stated times, as it is always difficult to insure complete evacuation of its contents in living animals.

And, second, to record by means of the oncometer any alterations in the volume of the organ, collecting and measuring the urine at the same time.

The influence that berberine exerts upon the urinary flow does not appear to be a very pronounced one. It does, however, cause a slight increase in the quantity of urine eliminated, even after the injection of small quantities of solutions into the venous circulation, quantities not sufficiently large in themselves to cause any increase in the urinary flow apart from the action of the drug. By studying the condition of the organ by means of the oncometer, and at the same time collecting the urine secreted, the conclusion was come to that the increased diuresis is dependent rather upon the elevation of the blood pressure brought about by the drug than by any direct stimulation of the renal cells themselves.

The volume of the organ as registered by the oncograph is found to follow very closely the variations in the blood pressure. After intravenous injection, when the blood pressure falls, the kidney contracts and becomes smaller, at the same time there is diminution in the urinary flow, and again when the pressure gradually again returns to and rises above the nor-

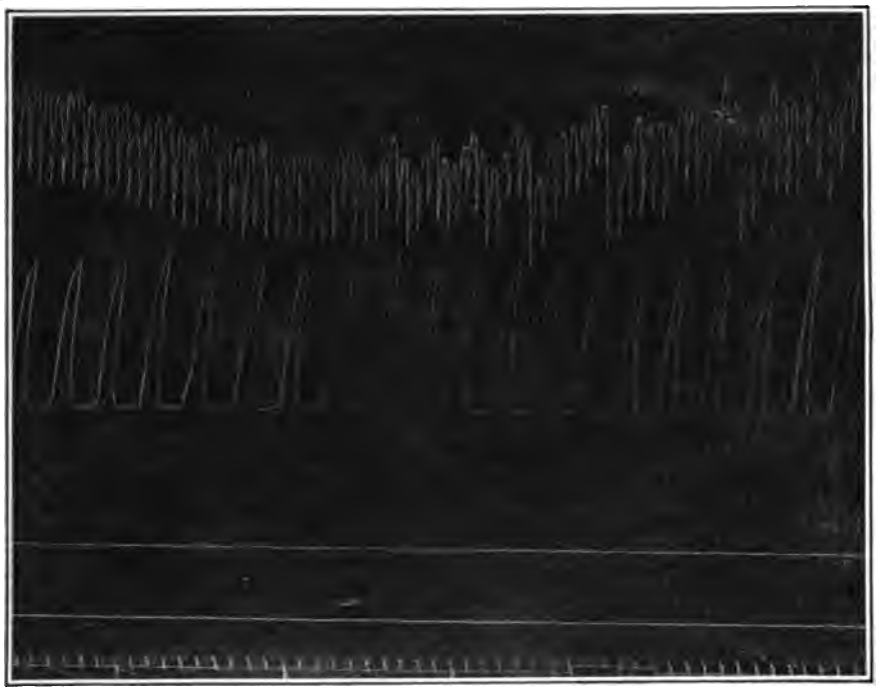

CHART D.

The above is a portion of Trace 6, Experiment XXIX, and also serves to illustrate the same point. The drug was administered just before the portion of the tracing begins.

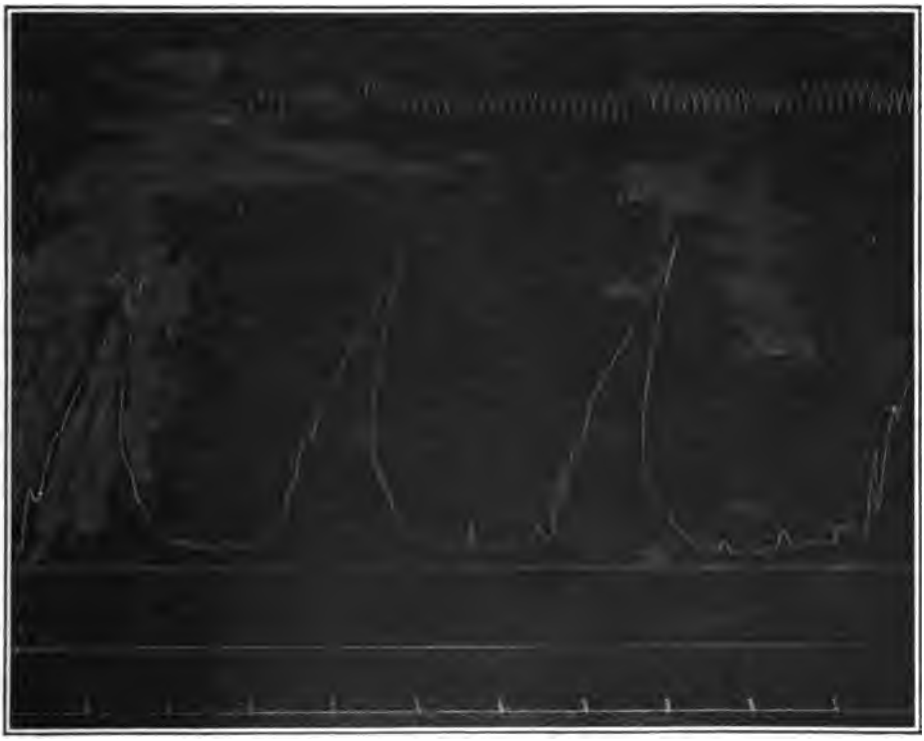

CHART E.

The above tracing, also on a dog, shows the very slight effect produced on respiration. The time is marked in five seconds.

mal, the volume of the kidney increases to a greater size than previously.

Although the diminution in bulk is synchronous with the lowering of the blood pressure, the subsequent increase does not precisely correspond in point of time with the rising pressure, but rather is a little delayed, and is prolonged over a longer period.

The period of greatest activity of the kidney is during the state of full distention, the urine may then flow sometimes twice as fast as prior to the injection. By repeating small doses with sufficient frequency, a state of almost constant contraction of the organ may be brought about and thus a diminution in the urinary flow.

Berberine can not, therefore, be said to have any very marked action upon the kidneys themselves, as a special diuretic, though it undoubtedly does cause, under ordinary conditions, an increase of the urinary eliminative processes.

THE ACTION ON THE SPLEEN.

As has already been stated, after death the spleen is found to be very much contracted, but if the organ be studied during life with the oncometer, it is seen that this organ follows much the same course as the kidney, diminishing in size with the fall in pressure and again expanding when the pressure has risen. This latter effect—expansion—however, does not occur at the same time as the rise in pressure, but comes on gradually a little later, and, after a short duration, the organ again contracts to a little less in size than the volume previously occupied, and thus the spleen is a little smaller after each dose, until finally it becomes very markedly contracted and will no longer respond except by a further contraction to the subsequent administration of the drug.

[Written for the MEDICAL BRIEF.]

Black Jaundice.

BY J. T. RATHER, M. D.,
Trinidad, Texas.

Kindly give us a treatment for black jaundice (malaria hematuria). I find very little written on this fatal malady, and, in fact, no treatment.

[Written for the MEDICAL BRIEF.]

The Treatment of Insomnia.

BY FREDERICK NORMAN, M. D., F. R. S, D. P. H.,
Brixton, London, England.

Insomnia, or sleeplessness, although it can hardly be regarded as a disease, is one of the most distressing conditions from which a patient can suffer, and is often a very serious complication in the after-treatment of surgical cases. This fact was very fully recognized by the late Sir John Erichsen, who, in his well-known "Surgery," frequently refers to the subject. Incidentally, he mentions the beneficial effect of sleep in warding off the effects of an accident. He says: "Those who are asleep at the time of the accident very commonly escape concussion of the nervous system. They may, of course, suffer from direct and possibly from fatal injury to the head or trunk; but the shock or jar, that peculiar vibratory thrill of the nervous system arising from the concussion of the accident, is frequently not observed in them, whilst their more wakeful and less fortunate fellow-travelers may have suffered severely in this respect."

Insomnia is a symptom or indication of many diseases, some trivial and others so serious as to jeopardize life. It varies much in degree, from simple restlessness to complete want of sleep. It may occur in the course of the acute specific diseases or may be simply the expression of worry, anxiety and overwork. It is a curious circumstance that middle-aged people and especially those advanced in life bear the deprivation of rest much better than young people in whom nutritional processes are carried on with much greater activity. Hilton, in his "Rest and Pain," says: "The interruption of rest by local disease, occurring to persons in the middle period of life, does not cause the same degree of exhaustion and wasting as in the young. They bear the loss of sleep better, because their constitution has to sustain the stress of repair only, not of both development and repair, as in the child. Their recovery is slower, their subsequent sleep is not so profound nor so prolonged, nor their rest so complete. The defective sleep and slow repair which manifest

themselves in the old after injury of any kind are familiar to us all."

In tropical climates, India especially, sleep is often so difficult to obtain that it has to be solicited by artificial means, a fact to which Sir Joseph Fayrer refers in the following passage: "Near almost every village there are one or more small channels by which water from the neighboring spring is conducted to the cultivated plots of ground for the purpose of irrigation, and these channels are, in parts, formed of troughs hollowed out of trees. A piece of bark or matting is laid on the lower of these troughs, and on this the infant, swathed in a large mass of clothes, is so placed that the upper water from the upper trough falls on the vertex of the cranium, and glancing off runs away under the bark or matting, without further wetting the child or its clothes; or if the stream is full and copious, the child is placed on the side of the channel, and a portion of the stream directed on its head by a large leaf or piece of bark, another leaf or piece of bark being arranged on the other side of the head so as to catch the water and carry it away. Children so placed will lie asleep for hours, and the mothers leave them while they go about their daily occupation."

The theory of the causation of sleeplessness has always had a peculiar fascination for me. It is well known that in all the higher animals, the central nervous system once in the twenty-four hours enters into that condition of rest which we call sleep. What is the cause of this periodicity it is very difficult to say. By some it has been urged that it is the result of the accumulation of the waste products of tissue metamorphosis, whilst others have looked to the vascular changes in the brain. Truth to say, we do not know with anything like certainty whether in sleep the brain is congested or anemic. The balance of evidence is undoubtedly in favor of the view that sleep is associated with cerebral anemia, but here we are met with the difficulty that when the whole body rests as it does in sleep, it contains as much blood as when it works, so that if the brain has less blood than in waking life, other organs must contain more.

In attempting to solve the intricate problem, we must commence by considering what is the physiological condition of wakefulness. We have obviously a normal condition of the heart, the "stop-cock" action in the peripheral arterioles and in the splanchnic area. The tension in the aorta is raised, the elastic recoil between the heart-beats lessens the amount of blood in the veins in the splanchnic area and increases the rapidity of change of blood through the brain, so that the metabolic activity in the brain cells is high from the rapid blood circulation in the brain. The dendrites are active and the brain is awake.

During sleep the whole organism is in a lower state of activity. The vital parts of the brain, the cardio-inhibitory, respiratory and vaso-constrictor centers are working at lowest pressure, the result being a diminution of the amount of blood supplied to the brain. This condition may be disturbed in two ways (A) physiologically and (B) pathologically. In the physiological condition, afferent impulses passing to the brain render the patient sleepless by mental conditions such as fear and anxiety. In spite of the determination of the blood to the abdominal viscera due to reflex inhibition of the vaso-constrictor center, which would tend towards sleep the cells of the sensory apparatus are kept active and the dendrites stimulated to activity on the katabolic side of metabolism. The potential energy present in the cells which during sleep should be used up in giving out energy for the renewal of their protoplasm is expended in causing molecular activity evidenced by dendritic movements, thus rousing the whole brain to undesired consciousness..

We have examples of the pathological condition in the narcosis of alcohol, morphine and chloral. Here the dendrites are in a flabby condition and are brought less intimately in contact so that the condition we call sleep ensues. After a time, from the continued use of these drugs, the cerebral cells undergo degeneration and no longer perform readily their functions, an explanation of alcoholism, morphinism and other allied conditions. To my mind there is good evidence to show that in sleep there is a contraction of the dendritic processes and a consequent

break in the transmission of nervous impulses.

Practically success in combating this distressing condition depends very much on the ability to discover the cause and to deal with obvious indications. A mode of treatment which proves strikingly successful in one case may prove utterly inefficacious in another. If, for example, the patient is distinctly run down and below par, the following prescription is more likely to insure the desired effect than any amount of so-called hypnotics:

℞ Quinin. Sulph. ..... 2 grains.
Strychnin. Hydrochlor. ..... ½ grain.
Extract Gent. ..... q. s. ut. ft. pil...
One t. d. s. Aut. Cib.

When the heart is irritable, possibly dilated, as the result of over-work, or of a chronic lung condition, such as emphysema, the judicious combination of digitalis and strychnine is likely to prove serviceable. When anemia is the cause of the trouble, perchloride of iron may be administered in efficient doses, or the following pill may be given three times a day:

℞ Ferri. Sulph. Exsiccat. ..... 5 grains.
Syrup Glucosi. ..... q. s.
M.:

It is essential in all cases of anemia attended with insomnia, that the bowels should be opened freely every morning by a saline purge.

Sometimes when there is great depression of the nervous system, combined with mental irritability, benefit may be derived from a short course of nervine tonics. My favorite prescription is a mixture containing liquor strychninæ, liquor arsenici hydrochloricus, tinctura quininæ and water.

When the patient is hysterical I place reliance on valerian and use the following prescription:

℞ Tinct. Valerianæ Ammon. ..... 1 drachm.
Sp. Camphoræ ..... 15 minims.
Aq. Chloroformi, ad. ..... 1 ounce.
Ft. Mist., t. d. s.

If the patient is flatulent or dyspeptic, I add to it ten minims of tincture of capsicum. Musk is not often used, probably on account of its expense, but preparations containing sumbul may be employed with benefit:

℞ Tinct. Sumbul ..... 1 drachm.
Tinct. Lupuli ..... 1 drachm.
Syrup Tolu ..... 1 drachm.
Infus. Lupuli, ad. ..... 1 ounce.
M.:

If, however, it should be thought desirable to employ musk, a pill containing two grains, made up with sugar of milk, may be given at bedtime. Valerianate of zinc acts well in these cases and I can recommend the following formula:

℞ Zinci Valerian. ..... 1 grain.
Pil. Assafoetid. Co. ..... 2 grains.
Confect. Rosæ. ..... 1 grain.
M.:

This is to be made into a pill and one or more may be administereed at bedtime.

From many years' careful observation I am satisfied that cases of insomnia are often due to distention of the colon. Although much attention has been devoted by various authors to diseases of the stomach, the functional derangements of the intestine have, curiously enough, escaped investigation. Ulcerative colitis, it is true, has been very carefully studied, chiefly, it must be admitted, from the point of view of the pathologist, but intestinal dyspepsia is rarely referred to, even in our most recent works on medicine. Distention of the colon presents a clinical picture easily recognized by even the most superficial clinical observer. The nausea, flatulence, loss of appetite and constipation, to which it gives rise, are rarely traced to their true source, although the condition presents well marked physical signs which can be elicited by palpation, percussion, and auscultation. It does not fall within my province at the present moment to discuss the subject in all its bearings, but that it is a fruitful source of inveterate sleeplessness I am convinced. The treatment of this condition is simplicity itself, and it is but right that the readers of the MEDICAL BRIEF should be made acquainted with the prescription for a mixture which, times out of number, I have used with success. It is:

℞ Sodæ Bicarb. ..... 15 grains.
Tinct. Rhei Co ..... ½ drachm.
Decoct. Aloes Co. ..... 2 drachms.
Ext. Cascar. Liq. ..... ½ drachm.
Sp. Chloroformi. ..... 15 minims.
Aq. Menth. Pip., ad. ..... 1 ounce.
M.:

It is not, perhaps, a very palatable mixture, but it is efficacious. The dose here indicated should be given two hours after every meal. Within a week the symptoms are ameliorated and the insomnia is a thing of the past.

It would not be difficult to mention other cases to which sleeplessness is reflex, but those I have mentioned will suffice to illustrate my contention that it is by no means an uncommon source of origin.

As accessory means of treatment much attention must be paid to the patient's sleeping accommodation. It is necessary to see that the bedroom is well ventilated and that it is kept at a moderate temperature. Some patients sleep best when every ray of light is excluded, but others get nervous and frightened under these circumstances and prefer a night-light or lamp. As a rule patients sleep best when well covered with bed clothes. It is a good plan to take some light refreshment during the night if restless. Systematic out-door exercise is of the greatest possible benefit, and even when the patient is actively engaged in business, half an hour's brisk walk night and morning will improve the appetite and brace up all the tissues of the body. Mental exertion calls the psychical centers into operation and by withdrawing the excess of blood from the emotional centers relieves them of their hypersensitive condition.

Hot baths at bed time are useful, and I have found benefit from effervescing baths and from baths containing sanitas or pure terebene or mixtures of these with pinol. An excellent combination is bay salt, ten pounds, bay rum essence, half an ounce and water to thirty gallons. An alkaline bath may be made by dissolving four ounces of bicarbonate of sodium in thirty gallons of water at 95° F., and adding thirty drops of oil of bergamot.

The bromides exert a sedative effect on the cerebral centers, and in the treatment of uncomplicated insomnia are more efficacious and much safer than the reputed hypnotics. I prefer a combination of the bromides, and use the following formula:

℞ Potassii Bromidi.....10 grains.
Sodii Bromidi.....10 grains.
Ammonii Bromidi.....10 grains.
Sp. Chloroformi.....15 minims.
Syr. Aurantii..... 1 drachm.
Aquam, ad..... 1 ounce.
M.

This should be given at bed time and, if necessary, the dose of the bromides may be increased to a drachm. If the patient is neuralgic, or is suffering from neuritis, the addition of twenty minims of tincture of gelsemium will be found advantageous. It is hardly necessary to say that when there is a syphilitic taint, iodide of potassium should be added to the mixture, and blue ointment or calomel ointment should be rubbed into the abdomen. In place of the orange as a flavoring agent, syrup of Virginian prune may be used, the small dose of hydrocyanic acid which it contains acting as a sedative.

Morphine I rarely use in insomnia, except for the first few hours after an operation. It is, as we all know, a most valuable remedy, but it is not a drug to give in chronic cases, for the morphine habit is readily established.

[Written for the MEDICAL BRIEF.]

Cerebral Hemorrhage.

BY GEORGE B. JENKINS, M. D.,
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Louisville, Ky.

In a short paper one can but give a foreword, and a few general principles concerning cerebral hemorrhage.

Anatomically there are four channels through which the intracranial circulation is carried on:

1. The meningeal, the most important, being the middle meningeal which gains access into the middle fossa at the base. This supply is distributed between the dura and the skull proper.

2. The cortical circulation derived from the internal carotids, and consisting of those branches which supply the convexity of the cerebrum.

3. By far the most important is the central or ganglionic, consisting of a series of perforating branches of the second group—which supply the great ganglia of the base; one of which, the external lenticulo-striate, from the frequency with which it is ruptured, is called the artery of cerebral hemorrhage; and,

4. The posterior supply derived from the two vertebrals and their junction trunk, the basilar.

Next in importance, the ages (three) at which the accident is most likely to occur,

1. The infant, from accidents and injuries during its delivery.

2. The youth, from acute fatty degeneration of the vessel walls, superinduced by the acute specific diseases to which this age is liable.

3. The aged, from arterial degeneration, produced in the earlier grades by alcoholism, syphilis, rheumatism, etc., and later the changes incident to senility, these changes giving a vascular liability to rupture; then at the other end of the circle, increased force of the heart propulsion from hypertrophy, with or without kidney sclerosis and kindred conditions, which serve to produce a high tension in a vessel we have found to possess a lowered resistance.

We also find two additional phenomena in the pathogenesis:

1. The tendency for miliary aneurisms to develop upon the basal arteries; and

2. A sclerosis, the aorta depriving it of its resiliency, and thus throwing this added strain upon the weakened vessels above.

A further study shows that, owing to the natural softness and instability of nerve tissue, a small hemorrhage would easily separate between the elements, and a large one would just as easily tear through them in pure and uninfected condition.

The pathology presents merely the phenomena of a blood clot, and a neuronic degeneration. The blood goes through the clotting process, then cyst formation or absorption, and cicatrization occurs, depending upon the size of the clot, in the event of the patient's recovery. And the nervous tissue presents various degrees of recovery. Some neurons are entirely destroyed, and the descending degeneration which is manifested in the extremities in from ten to fourteen days, and constitutes the most important guide to the treatment of the crippled muscles, announces definitely the degree and amount of permanent disability.

425 West Chestnut Street.

You will find my little dollar for which you will please renew my subscription to the "dear old BRIEF."—M. F. CRUMLEY, M. D., Oglethorpe, Ga.

[Written for the MEDICAL BRIEF.]

Purulent Pericarditis.

BY GEORGE M. GRAY, M. D.,

Professor of Clinical Surgery in the University of Kansas School of Medicine; Surgeon to St. Margaret's Hospital. Kansas City, Kansas.

The subject of this paper has been suggested to me by a case that came under my care a few months ago, and which case I presented before the Academy of Medicine, a few weeks ago.

Purulent pericarditis is a rare condition, and one in which the symptoms have not, as yet, been well studied. As far as we are able to determine, the symptoms of pus in the pericardium vary in no way from the symptoms presented in other effusions in the pericardial sac, and the diagnosis can be definitely determined only by the withdrawal of some of the contents. The symptoms of effusion into the pericardium vary somewhat with the quantity and the rapidity with which it accumulates. But the amount of fluid that can be endured and not destroy life is sometimes many quarts, as in the case that I will refer to later on, in which I withdrew fifty-five ounces by aspiration. And there are cases on record in which sixty ounces of pus were withdrawn.

In normal conditions the heart extends from the third to the sixth costal cartilage, and from half an inch to the right of the right border of the sternum to a point half an inch to the right of the left nipple. The pericardium is of a somewhat conical shape—its base resting upon and taking firm attachment to the diaphragm, while the upper, narrow part surrounds the trunks of the great vessels at the base of the heart. Collections of fluid within the pericardium distend the pericardium, and increase the area of normal heart dullness in all directions—the position of the heart being little, if at all, deranged—the apex beat will probably be lost entirely, or, in smaller diffusions, pushed up. Heart sounds, muffled and indistinct; dyspnea, precordial effusion, feeble, irregular pulse; difficulty in deglutition, dilatation of the cervical veins, cyanosis and increased area of cardiac dullness.

These symptoms may arise from any effusion in the pericardium. The removal of serous effusions from the pericardium—paracentesis of the pericardium—is usually accomplished by aspiration, the needle of the aspirator being introduced through the fifth intercostal space, at a point two inches to the left of the left border of the sternum, which is external to the internal mammary vessels. Roach advises tapping on the right side of sternum. In purulent collections within the pericardium the diagnosis can only be made with absolute certainty after aspiration and examination of contents. And, where the collection is large, may be resorted to as a means of temporary relief from dangerous symptoms, but never should be relied upon as a means of cure. Here the means demanded for cure of the disease conditions are the same as in collections of pus in other cavities, such as empyema of the pleura. Purulent pericarditis is much more frequent in childhood, and occurs in the new-born, as a result of infection of the cord, and, at times, follows periostitis, osteitis, tonsillitis, pneumonia, and puruient pleuritis. The tendency to effusion is greater in the child than in the adult, and is more likely to be purulent. Primary and uncomplicated cases are rare, and for this reason it is impossible to formulate a practical, general symptomatology for the disease.

The following case I attended with Dr. Nason, of Kansas City, Kas., last August:

C. L., aged sixteen, employed by S. S. Packing Co., parents living and in good health. He has had good health, but suffered from rachitis during early childhood, resulting in great deformity of the long bones in vicinity of large joints.

After two or three days of general malaise, with some difficulty in breathing and shortness of breath on exertion or in talking, on July 9, while at work, he was attacked with very severe pain in chest and great difficulty in breathing. He vomited and became so ill that he was removed to his home in a carriage, and Dr. Nason was called to see him. The pain in the chest, dyspnea, and vomiting continued for one week, during which time there was elevation of temperature, never high. At the end of one week there was some abatement in these symptoms, and he was allowed to sit up, but on the ninth day had a chill and began to grow worse. Increased dyspnea and pain, requiring constant fanning. The surface of the body was constantly cool, and for three days prior to my first visit (July 30) temperature had been subnormal. At this time temperature was 96° F., and pulse could not be counted, as it was irregular, feeble and very rapid. There was marked cyanosis and edema of extremities, more marked about ankles and greatest on right side. He lay on his back without pillows and required constant fanning. Could be turned on right side, but was very uncomfortable in that position. On inspection of chest, anteriorly, there was marked fullness of left side, with precordial bulging. Percussion elicted increased area of heart dullness. There was flatness extending beyond the right border of the sternum, and on the left side to the posterior axillary line; but there was not the flatness on percussion posteriorly that we would have in a case of large pleuritic effusion. On auscultation the heart sounds were muffled and indistinct, respiratory murmur heard over upper part of left chest above third costal cartilage anteriorly, and over scapular region posteriorly. From these symptoms and the condition of the patient, I diagnosed the case as one of pericarditis with large effusion, and advised immediate aspiration, as his condition was such that death might occur at any moment. So, after procuring aspirator and preparing the patient antiseptically for operation, I introduced the needle at a point just outside of nipple line, and in sixth intercostal space, and withdrew fifty-five ounces of creamy pus. After the withdrawal of sixteen ounces Dr. Nason remarked that he could feel pulse at wrist, and our patient said he was feeling much better. After removing all that would flow, our patient was left in fairly comfortable condition; cyanosis had disappeared, pulse was rapid, but fairly good, and breathing was easy. I now concluded that this accumulacion must have been in the pleura, as I did not think the pericardium could contain such a quantity, and while our patient was in fairly good condition for next three days, yet there was evidence of reaccumulation. There was some return of dyspnea, slight elevation

of temperature, etc., so, on August 4, our patient was prepared for operation with the intention of establishing free drainage by resection of a portion of rib. Preparation consised in scrubbing chest with soap and water, and application of five per cent carbolic solution. Anesthesia being complete, I introduced aspirating needle in ninth intercostal space in posterior axillary line, and withdrew about ten ounces of clear serum. I then withdrew needle and introduced it near point of former aspiration, and now withdrew pus. Leaving needle in place, I made incision along sixth rib and extending forward to costal cartilage and resected about three inches of the rib extending forward to cartilage. On opening pleura only found small amount of clear serum. But as the needle was still in place, I could see that it was in pericardium; so, after protecting the pleural cavity with gauze packing, I incised the pericardium and evacuated about three pints of pus. I could introduce my finger all around the heart and, by pulling the cut surface apart, could plainly see the heart. The pericardium was stitched to the wound and flushed with normal salt solution. I introduced a small piece of gauze for drainage. There seemed to be no adhesions of pleura or pericardium whatever. The pleura was infected later, and necessitated daily irrigation of pleural sac, and the pericardium was also irrigated daily for two or three weeks. Recovery was somewhat slow, but perfect; wound was entirely healed at the end of third month, and patient now enjoys as good health as before the sickness.

The infection of the pleural sac here demonstrated the importance of avoiding wounding the pleura in operations for drainage of the pericardium.

Dr. C. A. Lundgren reports a case of purulent pericarditis, which recovered after incision and drainage. He adds six cases to the list of thirty-five collected three years ago by Dr. J. B. Roberts. In this series of forty-one cases, sixteen recovered and twenty-five died. He advises the following rules of procedure in such cases: A considerable opening should be made in the pericardium, so as to enable the surgeon to obtain a view of the contents of the sac, and remove fibrous masses. In order to avoid injuring the pleura, the incision should be kept within the zone of absolute dullness. In some cases it is impossible to avoid the mammary vessels; in such cases they should be ligated before they are cut. The operation which he advocates is the resection of a portion of the fifth rib in the left mammary line, aided, in some cases, by removal of the sternal end of the sixth costal cartilage. He separates the pleura by blunt dissection, and sutures it to the wound in the chest wall, and insists that the operation should be done as soon as diagnosis is made.

Dr. J. B. Roberts says we should do an operation which will not open the pleural sac, but which will open the pericardium at the most dependent point, and at a point which will be the most dependent, even after the sac has contracted. He thinks that this point is best obtained by resecting the fifth costal cartilage; after the cartilage has been resected the internal mammary vessels are either sutured or tied in two places and divided, and the pericardium exposed by blunt dissection, and incises the pericardium and sutures same to wound.

In conclusion, will say that there is little or nothing contained in our latest text-books on this subject, and what little I have been able to find is in the shape of case reports. But I think all operators who will have these cases to deal with are agreed on all essential points:

1. The importance of early free drainage.

2. The importance of opening the pericardium in a way best calculated to avoid injury to the pleura and heart.

The prognosis is good in uncomplicated cases.

Sixth and Minnesota Avenue.

I like the BRIEF much. For busy practitioners it is admirably adapted. What you say in regard to medical legislation, antitoxin and kindred abominations has always met my hearty approval. We are gradually being legislated out of personal rights, and police power is pleaded as grounds for unjustifiable encroachments. Either a halt must be called or we will have an imperialism or bureau government that will turn us inside out.—ALEXANDER WILDER, M. D., Newark, N. J.

[Written for the MEDICAL BRIEF.]

The Climacteric Period and Menopause in Relation to Fibro-Myomatous Degeneration of the Uterus.

BY FRANCIS FOERSTER, M. D.,

Formerly Professor in Gynecology at the New York Post-Graduate Medical School and Hospital: Gynecologist to the German Hospital, New York: Fellow of the Academy of Medicine, Obstetrical Society, Etc. New York City.

The great majorty of gynecologists look upon the terms "climacterium" and "menopause" as synonymous. I think their meaning should be interpreted differently. The climacteric period I look upon as a progressive period of time, which reaches its climax in the menopause. The menopause, on the other hand, is an established fact—the physiological functions of the ovary have ceased, and with this menstruation is stopped. During the climacteric period normally congestive changes occur in the female organs of gestation. These changes are in a much more aggravated form when the uterus is the seat of myomatous degeneration. The organ then assumes a considerable size, pressure symptoms and alarming hemorrhages may occur. The ovaries become highly stimulated, and their activity may be thereby early exhausted; thus the menopause may be entered, although the patient may still experience irregular hemorrhages, which are merely pathological. This occurs so much more readily in patients suffering from a diseased state of the ovaries. This explains why patients, after myomectomy has been performed, often do not suffer from the distressing symptoms following ordinary ovariotomy, the ovaries having undergone retrograde changes since some time. Pathological hemorrhages may be mistaken for a physiological one. Waiting for the hemorrhage to cease may lead to a complete depletion of the patient, a circumstance which renders the most doubtful prognosis in cases of operation, especially as we know, that fully one-third of such patients are suffering also from pathological changes in the circulatory apparatus. I never saw, during the climacteric period, a myomatous uterus reducing itself in size, but, on the contrary, I saw them grow, and some of them undergo malignant changes; therefore, we are not justified in holding out to our patients the hope that the climacterium will reduce a myomatous tumor.

But how about the myomatous uterus after the menopause? We must admit that quite a number of tumors, especially the ones which occur late in life, are reduced in size about this time; but, on the other hand, we know that malignant degeneration follows in direct proportion to the advance in years, to say nothing of the lack of resisting power of the aged on whom we are forced to operate. The climacterium, as well as the time after menopause, we must look upon as a critical period in connection with the myomatous uterus. The physician should consider myoma more in the light of a malignant neoplasm, and should treat the same accordingly. We know that the majority of patients afflicted with myomatous uterus perish if left to themselves. The number of those in which we see a reduction in size or disappearance of the growth is too small to be taken into earnest consideration in estimating the danger of the disease.

An early operation will be indicated in all cases where the myoma is found after the time of the menopause, while in those cases which have been observed early in life, or those which appear during the climacteric period, a careful observation should be exercised. Should pressure symptoms set in, and should the patient suffer from excessive hemorrhage, extirpation of the myomatous uterus should be speedily done.

926 Madison Avenue.

[Written for the MEDICAL BRIEF.]

The Difference Between the Galvanic and Faradic Currents as to Origin and Use.

BY J. R. SPENCER, M. D.,

Professor of Electro-Therapeutics and Physical Diagnosis in the Eclectic Medical Institute. Cincinnati, Ohio.

The galvanic and faradic currents are the two currents mostly used by the physician in general practice. Some physicians who have not given the subject of electro-therapeutics much study do not know the difference between these two currents, as to their origin and use. The

object of this paper is to bring out some of those differences, so the physician using them may do so more intelligently.

The galvanic current is known under the name of galvanism, voltaic electricity, current electricity, and dynamic electricity. It is produced by chemical action or the dissolution of metals by chemism.

For the use of the medical practitioner a convenient device for the generation of electricity has been constructed; it is known as a battery. In this apparatus may be found certain metals and solutions which act chemically upon each other, producing the electricity. Batteries are composed of one or more cells; each cell is composed of a cup containing two metals, one of which is nearly always zinc, the other metal may be one of several different kinds; usually copper, carbon or platinum is used. The solution that is most frequently used to produce the chemical action is sulphuric acid and water; a solution of sulphate of copper, bichromate of potassium, and many other liquids or combinations are used by the different makers of batteries as agents to excite the chemical action. The manufacturers of the different batteries always send with each new instrument a formula for the solution to be used in it.

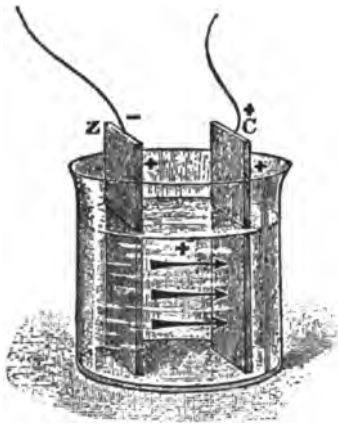

FIG. 1. Simple Galvanic Cell.

The chemical reaction necessary to generate electricity in the cells of batteries will vary somewhat according to the elements and solutions used. It is not necessary in this article to study these different reactions, but a general idea can be obtained by studying the steps that take place when zinc and copper are used as the elements, and a solution of sulphuric acid and water is the exciting liquid. When these metals are placed in the acid, the zinc having a strong affinity for oxygen, will dissolve the molecules of water (H_2O), the oxygen will unite with the zinc to form oxide of zinc, the hydrogen will escape through the solution to the copper plate, pass along that plate and escape to the atmosphere; then the sulphuric acid will unite with the oxide of zinc, forming sulphate of zinc. At the time, and by the act by which the sulphate of zinc is formed, electricity is generated at the zinc plate; it then passes through the acid solution to the copper plate; when this plate is connected with the zinc plate by wire, the electricity passes along the copper plate over the wire to the zinc plate, completing a circuit which is necessary for the activity and usefulness of an electric current. When the two plates are in contact or connected by wires, the circuit is said to be closed; when separated the circuit is said to be open.

As the electricity in a cell is generated wholly by the action of the acid upon the zinc, its quantity will be proportional to the extent of zinc surface exposed to the acid. Considerable more electricity than can be generated by one cell will be needed in the treatment of disease, so galvanic batteries are constructed with a number of cells; if zinc and copper be the elements used, the copper plate of the first cell will be connected with the zinc plate of the second cell, and the copper plate of the second will be connected with the zinc plate of the third, and so on until the last cell is reached; the copper plate of the last cell will be connected with the zinc plate of the first cell, completing what is known as a compound galvanic circuit; the object being to obtain more zinc surface for the action of the acid.

When electricity is being generated in the cell of a battery, two opposite conditions of that agent manifest themselves, known as positive and negative electricity, marked with a plus and minus sign. The electricity leaves the cell over a wire connected with the copper plate, is known as plus electricity, and passes on to the zinc plate where it is known as minus electric-

ity. There is less potentiality or tension at the zinc plate than at the copper plate, therefore the electricity flows from the copper to the zinc. Possibly a better understanding of positive and negative electricity might be gained by thinking of that condition of the current at the copper plate as having a potentiality above a certain state of equilibrium, while at the zinc plate the potentiality is below that state.

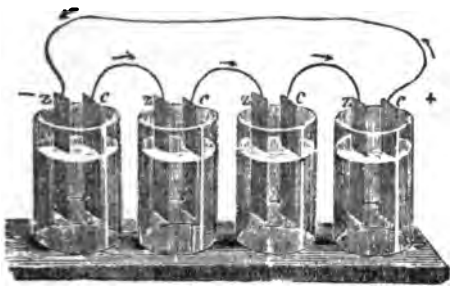

FIG. 2.

If the wire connecting these plates be cut, the current will cease to flow, but the electricity will exist at the cut ends of the wire in a static state. The amount of this static electricity will depend upon the strength of the original current before the interruption was made.

The interrupted galvanic current is produced by the successive opening and closing of a circuit during a continuous electrization.

These interruptions may be produced in various ways, such as by raising an electrode from the skin and replacing it again, or by any kind of an interrupting apparatus.

When the exciting fluid is an acid the elements in the battery must be removed from it when not in use, or the zinc will soon be destroyed. Most batteries are constructed in such a way as to make this an easy task. If the fluid or exciting agents be an alkali, the elements may remain in it all the time without injury.

The faradic current is really a modification of the galvanic current by the principles of induction. The current is known and spoken of by different writers as the secondary current, interrupted current, faradic current, magneto-electricity and electro-magnetism.

Induction means the charging a body with magnetism without coming in contact with it. In order to simplify the subject of induction, it can be spoken of as existing in two forms, magnetic and electric induction. There is no real difference in these two forms, except as to origin. Magnets have the power of attracting soft iron a short distance from them; this is due to lines of force that extend in every direction from magnets; the space covered by these lines of force is called the magnetic field. The same condition exists around a wire over which a galvanic current is flowing; the lines of force going out from this wire are called electric lines of force, and the space covered by them is known as the electric fluid. Where any metallic substance is brought into either of these fields at the time they are disturbed in any way, it will receive magnetism by induction.

The earliest observation in regard to the phenomenon of induction was made by Professor Oersted, of Copenhagen, when he noticed that a magnetic needle, when brought near to a wire over which a galvanic current was flowing, would deflect. Many philosophers and electricians made extensive researches in an effort to find an explanation for this strange action of the needle, which is now known to be due to the electric lines of force.

Faraday spent much time during a period of five years in an effort to carry over a current of electricity from a primary wire to a secondary wire on which no previous current existed, the secondary wire running parallel with the primary wire. Success at last crowned his efforts, but the discovery of the method of doing it was accidental; he had placed a galvanometer in the circuit formed by the secondary wire by which the presence of electricity could be told. During his experimentations he accidentally broke the primary circuit, and at that instant the galvanometer announced the presence of electricity on the secondary wire; this was accomplished by disturbing the electric fields that surrounded the primary wire by breaking the primary circuit.

The primary wire is the one on which a galvanic or a continuous current is flowing; the secondary wire is the one to which the current is caried or induced. It follows, then, that any disturbance of the electric field will induce a current of

electricity on a secondary wire. This can be done in four different ways: 1. When the primary current is opened. 2. When the primary current is closed. 3. When the primary current is increased or diminished in strength. 4. When the primary wire is brought nearer or removed further from the secondary wire. The secondary current will induce a tertiary current on the third wire, and the tertiary current will induce a current on the fourth wire, and so on under the same conditions that the primary current induced a secondary current on the second wire.

An induced current is called an interrupted current, because it flows in the same direction as the primary current under certain circumstances, and immediately turns and flows in the opposite direction when those circumstances are changed. When the induced current is flowing in the same direction as the primary current it is called a direct current; when it flows in the opposite direction it is called an inverse current.

Direct currents are produced: 1. At the time the primary current is broken. 2. At the time the primary current is diminished in strength. 3. At the time the primary current is removed further from the secondary wire.

It is possible to constantly disturb the electric fluid around the primary wire, by which means the induced current can be produced.

This is done by an ingenious device called a rheotome, or current interrupter. This instrument is placed in the primary circuit, and opens and closes that circuit in alternation; by these two ways the electric field is disturbed and the induction takes place by which the faradic current is produced.

Faradic batteries are usually constructed with one galvanic cell, in which the galvanic or primary current is generated; leading from this cell and connected with it, is the primary wire; this wire is wound in a coil in which a piece of soft iron or a bundle of wires is placed; this is the core of the battery. This primary wire is arranged in a circuit; it is of coarse wire, and has no great length. Surrounding it is the secondary wire, wound around a spool, but it is not connected with the primary wire; it is within the electric field surrounding the primary wire; it is a very fine wire of great length, and is also in a circuit. When the battery is in use the galvanic current flows over the primary wire, which is opened and closed by the rheotome, thus disturbing the electric field and inducing the faradic or secondary current on the secondary wires.

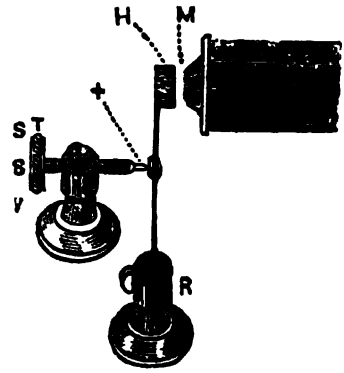

FIG. 3.

The core is within the coil of the primary wire, the end of which is marked by M, opposite the hammer H, which is the end of a spring. The current passes along the post holding the screw T, then along the screw to the spring, thence to the post R, holding the spring, then over that post to the wire which surrounds the core; these are a part of the primary circuit. At the time the current of electricity passes over the primary circuit, the core receives its magnetism, or becomes magnetized by coming in contact with the electric lines of force from the primary wire, then as a magnet it attracts the hammer H of the spring, and draws the spring away from the screw T, which opens or breaks the primary circuit at X; the moment the circuit is broken the core is demagnetized, and loses its attractive power, the spring immediately goes back to the screw T, where it naturally rests, and the circuit is closed again, then the core becomes a magnet again and acts as before. In this way the opening and closing of the primary current is kept up at a rate varying from thirty per minute to fifty thousand per minute.

The buzzing or singing noise made when a faradic battery is in action, is pro-

duced by this opening and closing of the primary circuit by the rheotome. The core in a faradic battery is a part of the rheotome, and without it the primary current would not be opened. It also has another important use; when it becomes magnetized by the galvanic current it is a magnet with all the properties of a magnet; magnetic lines of force go out from it in all directions, acting in conjunction with the lines of force originating from both the primary and secondary wire, greatly increasing the intensity or tension of the faradic current.

In faradic batteries a tin or metallic tube covers the core; the strength of the current can be regulated by this tube; when it covers the core its lines of force are cut off by the tube, and the current is weakened, but when this tube is removed they act, as just explained, to strengthen the current.

The two currents will often accomplish cures in the same class of diseases. Both currents have a very beneficial influence over nutrition, the faradic having the better effect upon the muscular system and the galvanic upon the nervous system. Both will produce muscular contractions in paralyzed muscles, will relieve local neuralgias, will stimulate absorption of morbid deposits, and will act upon the brain, spinal cord and sympathetic nervous system, effecting cures in certain pathological conditions; both will heal ulcers and dissipate some tumor masses, yet the galvanic is the better of the two for the treatment of that class of cases. Owing to the similar action of these different currents in the treatment of many diseases, the operator will be able to treat successfully diseased conditions with either, yet there are certain pathological conditions that will yield more readily to one current than to the other. The following is a summary in which one current can be used to greater advantage than the other:

1. The galvanic has a greater power to overcome resistance, and therefore is better in the treatment of diseased conditions of the brain, spine and great sympathetic system of nerves.

2. The galvanic has the power to produce contractions of paralyzed muscles when the faradic would fail.

3. The galvanic has greater power as thermic or electrolytic agent, and therefore is better for the galvano-cautery and for electrolysis.

The faradic has the following advantages of the galvanic:

1. The faradic is able to produce muscular contractions better than the galvanic, unless the paralysis be very great.

2. Owing to its alternating character, the faradic current has a greater mechanical effect, producing a general massage treatment; this makes it especially useful in treating debilitated muscles.

3. The faradic current is less harmful in its effects upon the system, and is not as liable to be injurious to patients when handled by inexperienced or careless operators.

952 West Eighth Street.

[Written for the MEDICAL BRIEF.]

Tuberculosis as a Frequent Complication of Typhoid.

BY W. T. S. DODDS, M. D.,

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Many observers have noted that after a convalescence from typhoid, especially in children and young girls, that a slow recovery is very marked. The patient's condition remains practically the same with regard to emaciation, anemia, and a slight disturbance of the gastro-intestinal tract. This may continue for a short time only, and then subside, being due, probably, to some of the paracolon or paratyphoid organisms which remain in the bowel, and are responsible for the trouble, but where the intestinal tract performs its function properly the dejecta become normal in consistency and color, and digestion resumes its usual processes. Still, in many cases, we find convalescence slow and retarded.

In these cases we very frequently see a slight cough at night or early in the morning; we also find a temperature in the morning which is subnormal, with a slight increase above normal toward night. The

examination of the lungs in these cases does not reveal much of importance grossly, but if a careful examination be made of the lung, comparing each side absolutely in a great number of cases, we would find that there was some change in the respiratory action.

The important early change in a pulmonary tuberculosis which complicates a convalescent from typhoid, is a roughness, harshness upon inspiration, and a prolonged expiratory murmur. This is sometimes confused with the normal bronchial respiratory murmurs upon the right side, because the right bronchi at the angle of the scapula are nearer the surface than are those of the opposite side, consequently, this condition must be taken into consideration when we are comparing the two lungs.

The percussion note in these cases is usually negative, and unless there be some fluid or a definite infiltration of the lung, we will not gain anything from percussion.

Inspection of the chest might reveal, in these early stages, a slight restriction upon the affected side, but this is hardly probable. The importance, then, of a careful examination of the lungs of a convalescent from typhoid, is evident. No case should be permitted to be discharged without a most careful examination of the lungs with the chest absolutely nude. The trained ear will be able to distinguish then the very earliest involvement of lung tissue, and while we usually find a slight apiceal catarrh following a protracted case of typhoid, yet a marked catarrh of the apices of either lung is always suggestive of an early tubercular involvement.

Some observers say that they have demonstrated an apiceal catarrh, which was not tubercular, but in the next sentence, also, they make the statement that, as a rule, apiceal catarrh indicates tubercular involvement.

If we permit these cases to go unrecognized, even for a short time, great damage is done to our patient and injustice to ourselves. We have comparative reason to expect a cure in any early infection.

It is not possible, at this early stage of the disease, to demonstrate the tubercle bacillus in the sputum, because of the fact that the disease process has not advanced to stage of suppuration. If we wait, then, for the appearance of the tubercle bacilli in the sputum, we probably have waited too long to benefit our patient. True, we may sometimes be mistaken with regard to an apiceal catarrh following typhoid being due to the tubercle bacillus, but if we are, then it was to the advantage of the patient.

The following three cases are illustrative:

Case 1.—Mrs. B., a young married woman, wife of a physician, consulted me early in June of last year, because of a slight annoying cough. Her history revealed that she had recovered from typhoid fever, early in February, but that her recovery was distinctly slow and unsatisfactory. She was given the usual tonics to bring up her blood tone, and to stimulate her digestive functions, but to no avail. I questioned her closely with regard to the manner of her life following this attack, and found that she had been very closely confined to the house because of fear of catching more cold. I examined her lungs carefully and found easily the tubercular involvement in the right apex; also, without doubt, a tubercular involvement of the bronchi. She was told of her condition, and sputum requested. The next day an examination of the sputum revealed small numbers of the tubercle bacilli, a few pus cells, a few alveolar and bronchial epithelial cells, and practically no mixed infection and no elastic tissue. She was notified of her trouble and sent to her husband, who immediately consulted me with regard to her future treatment. For reasons unknown to me, this was not followed out, and on the first day of September the patient again presented herself at my office with a definite tuberculosis of both lungs, and a condition of sepsis which was very violent, and which will probably end in her death shortly.

Case 2.—A child, eight years old, who had typhoid fever at the age of seven, was sick for six weeks; recovery slow, and patient never regained her normal tone. She consulted me in April of last year. I found a tubercular involvement of the right apex. This condition had not been recognized, and she was brought to me to find out "what was wrong with her blood."

Case 3.—A girl, fourteen years old, had an attack of typhoid fever six months before her appearance at my office. Convalescence was slow, and the patient showed evidence of grave disturbance, rather her physician was alarmed about her condition from the beginning, but could not decide exactly the conditions which were producing the trouble. When I saw her she was anemic, emaciated, and quite weak. General condition of the patient made me a little suspicious of a tubercular involvement of the lung, which was demonstrated. The last two cases are doing very well under antitubercular treatment, while the first case will probably die because of her own carelessness.

New York Ave., bet. Penn. and Delaware Sts.

[Written for the MEDICAL BRIEF.]

Summer Diarrheas.

BY JOHN W. KYGER, M. D.

Professor of Pediatrics in the Medical Department of the University of Kansas.
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The most pronounced etiological factors in the production of summer diarrhea are heat and diet. These cases rarely occur outside of the very warm season. They usually appear after the thermometer has registered a temperature of eighty or thereabouts, and disappear toward the close of the summer season when the temperature drops to eighty or below that point.

A second etiological factor is moisture —low barometric pressure. Heat and moisture play an important part in the causation of summer diarrhea through their influences upon the diet, that is, through their influence upon the food supply in the production of chemical changes in many varieties of food. Milk is particularly susceptible to these chemical changes, and if extreme care is not observed in procuring the milk supply it constitutes one of the chief dangers with which we have to contend at this season; consequently, in all cities, the preservation and purity of the milk supply should receive the most earnest care and attention. Stringent laws should be enacted for this purpose. In New York City, where such laws are enacted and carried out more fully at the present time than in any city in the United States, the infant mortality has been greatly reduced, so that in the last ten or fifteen years this mortality shows a reduction of at least forty per cent.

Recognizing these etiological factors in the production of summer diarrhea, it necessarily follows that the most important feature of treatment is prophylaxis. In order to carry this out fully, it is necessary to proceed along several lines. In the first place the laity must be educated and made to appreciate the importance of this subject. And I believe it to be the duty of every physician attending upon these cases to impress upon parents the importance of strict attention to the purity of the food supply.

One of the commonest errors in the care of infants and young children is that of overfeeding. When the infant's digestion has become impaired from any cause this diarrheal condition is prone to develop. It is then most essential to prohibit food entirely, or to permit its ingestion in a greatly diluted form. I emphasize this fact because it seems to be so often overlooked or neglected.

When diarrhea has developed it is most imperative to remove thoroughly from the intestinal canal all fermented food products. It becomes necessary to cleanse the intestinal tract thoroughly, which can be done by means of cathartics, and when possible castor oil should be used. Small doses of calomel are useful for the purpose of arresting fermentation. After this has been done and the intestinal contents thoroughly evacuated, nearly all form of summer diarrhea will require no further treatment except a simple regulation of the diet.

When the diarrhea has passed into the inflammatory stage, producing entero-colitis, we have a much more difficult condition to deal with. We may have to resort then to intestinal antiseptics. One of the very best agents in the treatment of entero-colitis is the use of rectal and bowel irrigation. This treatment—if an abundance of water is used and the bowels are irrigated thoroughly—serves two purposes. If cold water is used the temperature is reduced, and frequent ir-

rigation leaves the bowels clean and aseptic.

It is needless to say that great care and attention must be bestowed upon the preparation as well as quantity of the food to be given to these children.

Those forms of summer diarrhea resembling cholera infantum are seldom seen nowadays. I believe this is due to the fact that the laity are becoming much more intelligent along these lines and recognize the importance of taking early measures to prevent them by a more careful regulation of the food supply.

It is now a recognized fact that cholera infantum is nothing more nor less than an acute milk infection; consequently the first consideration in treating a case of this kind is a complete withdrawal of the milk. In these cases I strongly recommend the substitution of stimulants and a complete withdrawal of all foods for as long a time as possible.

600 East Thirty-First Street.

[Written for the MEDICAL BRIEF.]

Tubercular Peritonitis.

BY JOHN G. CECIL, B. S., M. D.,

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Louisville, Kentucky.

Ordinarily tubercular peritonitis would be considered under the head of medicine; more recently, however, it has been classified as a surgical condition, and treated as such with greater success than by any other method.

Tubercular infection may develop in two ways:

1. By a more or less diffuse deposit of miliary tubercles, and not attended by very active inflammation; and,

2. A tubercular peritonitis, with the deposit associated with a decidedly active inflammation, and more or less proliferation.

These two varieties constitute the ordinary forms of the disease, one of which may be called the "dry," and the other the "moist" variety. Surgeons have found that, as a rule, operation upon the moist form, where there is an abundant accumulation, is followed by good results. No one has yet been able to explain why this is so, why a simple opening of the abdomen and exposure to the air for but a moment, and closing the wound, will often result in cure.

In the "dry" form, surgery has not been so successful, and surgeons are a bit chary about attacking this condition with a knife.

Many of the cases I have observed have been relieved and often cured by this simple surgical procedure. One case in particular I remember, was that of a young girl about eighteen years old, who was attacked with a disease which seemed like a mild case of typhoid fever. It ran a course of four or five weeks, terminating as typhoid, but instead of the ordinary convalescence the girl remained sick. There was an accumulation of fluid in the abdominal cavity. A surgeon was called in, who removed the fluid by operation, the peritoneum was studded with milliary tubercles; the wound was sewed up and nothing further done in the way of treatment. The patient made a perfect recovery, gained in flesh, and soon returned to her work as a clerk in a store. Now comes the strange part of the story. After remaining well for six years, she was seized with a similar attack, and, remembering the cure in the first instance, she was referred to the same surgeon who had operated six years before. A second operation revealed the peritoneum in the same condition as before, and produced the same good result. This seems to be a complete demonstration of a double cure in the same patient.

The dry variety of tubercular peritonitis, where there is very little inflammatory action, and no accumulation of fluid, has not yielded so successfully to treatment. Death has usually been the result. In these cases there are more or less adhesions, the peritoneal cavity is partly obliterated, and the bowels are bunched-up in a tumor-like mass, occupying the abdominal cavity. The omentum in some cases grows quite thick, altogether as much as one inch in thickness. In some cases which I have observed, the disease seemed to arise in the appendix. I remember one case operated upon by a leading Chicago surgeon, after a diagnosis of the wiseheads in that town that "something was wrong in the peritoneal cavity."

None had been able to determine the exact condition. Operation revealed large tubercular peritoneal masses in the upper zone of the abdomen, in the omentum, and around the appendix, and the history of the case seemed to indicate that the disease originated in the appendix. What the result was I was not able to discover, only having seen the case during operation.

Symptoms are those of chronic peritonitis from any cause, except that the abdomen is harder and more tender. There is, of course, great emaciation all over the body, and very defective digestion. Very often the lower portion of the abdomen is dull on percussion, feels hard and resisting, and the upper portion will be tympanitic. This, of course, means that the lower part of the abdomen is filled up with tuberculous peritoneum, and the bowels have been crowded up into the upper portion.

In all cases of tuberculous peritonitis, look out for tubercular infection in other portions of the body. Four-fifths of the cases of tubercular peritonitis are secondary to tubercular disease of the lungs. It may also be part of a general miliary tuberculosis, similar to that seen in children, and it may extend, of course, from tubercular infection of the bowels.

Diagnosis.—This is exceedingly difficult at times, and many times is made only after an exploratory operation reveals the true situation. On palpation of the abdomen we often find it studded with small tubercles, giving a feeling of roughness, or a number of small miliary nodules, which will arouse our suspicions. But there is nothing in the symptoms which will enable us to make a positive diagnosis until the abdomen is opened. This we can safely do with comparatively no risk. In a case where the diagnosis can not be made, we are perfectly justified in making this exploratory operation.

The above explains how it happens that surgeons have come to regard this disease as belonging to their province, they are so often called upon to make this exploratory operation. Many times the abdomen has been opened only to find miliary tuberculosis. Recognizing the fact that it was impossible to remove these nodules, the wound has been closed, and the physician gratified to see his patient recover. Just how, he does not know. Several reasons, more or less ingenious, have been suggested as a possible explanation, but none has been accepted.

In making a diagnosis we must depend largely on the history of the case, since we know that four-fifths of these cases represent tubercular infections in other parts of the body. If the patient has tubercular infection of the lungs, or elsewhere, followed by symptoms pointing to trouble in the bowels or abdominal cavity, we very naturally conclude that this is simply an extension of the trouble to the peritoneum, with the lungs as the original focus.

We are sometimes able to make a correct diagnosis of tubercular peritonitis by tapping the abdominal cavity, and examining the fluid which has been withdrawn for the tubercle bacilli. We may also use the Koch injection serum for the same purpose. Following this injection there will be a rise of temperature if tubercular peritonitis is present.

Treatment.—Is the same as for general peritonitis, with surgery in addition.

713 Fourth Street.

[Written for the MEDICAL BRIEF.]

Veratrum Viride in the Treatment of Eclampsia Puerpeolii.

BY CHARLES GREGORY SMITH, M. D.,
Professor of Chemistry in the Cincinnati Eclectic Medical Institute.
Cincinnati, O.

Eclampsia is one of the most dangerous and troublesome complications with which the puerperal female may be assailed. Who that has ever witnessed an attack of this horrible malady can efface from his memory the hideous picture that is indelibly impressed thereon. Therefore, any remedy that promises to be of value in the treatment of this frightful disorder is to be gladly welcomed. Some writers have regarded veratrum as an antidote to spasmodic conditions, due to causes other than eclampsia, viz., persistent convulsions in children, resulting from spinal irritation or meningitis; also, the convulsions produced by toxic doses of strychnia. In these cases the remedy has sometimes been administered by mouth, in others,

hypodermically, but it is in the treatment of puerperal eclampsia that veratrum stands without a peer. Those who have employed it in the treatment of this most dangerous disease agree that there is no better remedy.

In 1864, Dr. Fener wrote an article for the *Obstetric Journal*, describing about forty cases of eclampsia that had been treated by Dr. E. D. Smith and H. S. Firth, of Brooklyn, who had used the green, saturated tincture of veratrum viride, accompanying it with the green saturated tincture of gelsemium, with perfect success. Dr. A. Whitney, about the year 1877, who was the dispensary physician to the Department of Women and Children, Northwestern Dispensary, New York, wrote an article for the *Philadelphia Journal*, regarding forty cases of severe puerperal eclampsia and fever treated with this remedy, without the loss of a single patient. Among the various remedies suggested in this condition there is none that can compare, as to efficiency, to veratrum.

It is a well-known fact that in order to control this dreaded disease the temperature must be kept at or just below normal, and the pulse rate right at or a little below sixty. Practical experience has demonstrated that convulsions very rarely occur if the aforesaid condition is maintained.

As to the method of administration of this remedy, it may be given either hypodermically or by the mouth. Each method has its particular advocates; personally, I believe the hypodermic method of administration to be the most favorable. The dosage will vary with the individual case. Some of these cases require large doses, in others the dosage will be small, and, again, in others enormous doses are required to control the spasmodic action. In some, a single dose will be sufficient, and in others it must be repeated and continued for a number of days. In one recorded case a hypodermic of seven minims gave permanent relief; in still another case a dose of sixty minims, given with one-quarter grain of morphia, hypodermically, prevented a recurrence. In still another, thirty minims hypodermically every twenty minutes, and dose reduced to fifteen minims until the desired effect was produced. As previously stated, the dosage must be governed by the severity of the case, but the pulse rate must be kept near sixty, and the temperature at, or below, normal.

In using veratrum in these cases, it might be well to remember that as morphia facilitates the action of the drug, a hypodermic of one-eighth or one-quarter grain might be given just previous to the administration of the veratrum. It is also well known that as veratrum increases the secretion in the lungs, kidneys and liver, it would have a beneficial action other than the relief of the convulsions.

In a case of mine, in which fifteen convulsions occurred, morphia had been administered hypodermically to the amount of three-quarters of a grain, in a few hours. Chloroform had been administered, but as the patient did not bear this drug well, it was discontinued. Seventeen drops of veratrum in about one-half drachm of water, was administered hypodermically. The pulse rate, prior to this administration, was one hundred and eighty. In seven minutes it had been reduced to one hundred and forty, and in thirty-five minutes from the time of administration the pulse rate was seventy-five, and in the course of another hour it had dropped to sixty. After the administration of this single dose of veratrum the patient had no more convulsions, and made a perfect and rapid recovery. Small doses of veratrum by mouth were continued for the next forty-eight hours. In treating these cases it must be remembered that a tincture of reliable and known strength must be used.

224 Dorchester Avenue.

[Written for the MEDICAL BRIEF.]

Narcolepsy.

BY C. M. NORWOOD, M. D.,
Stamps, Ark.

I wish to ask any readers of the MEDICAL BRIEF if they have had any experience with narcolepsy. I have, at present, a patient who has this malady, and need help. I shall be glad to have any treatment that will cure the case.

[Written for the MEDICAL BRIEF.]

The Diagnosis of Inguinal Hernia.

BY ALFRED DE ROULET, B. S., M. D.,

Chicago, Ill.

Formerly Professor of Clinical Surgery and Diseases of Women in the Medical Department of Trinity University.

In order to more fully appreciate the significance of the various signs and symptoms, it would seem advisable, before entering into a discussion of the diagnosis of inguinal hernia, to review briefly the anatomy of the inguinal region.

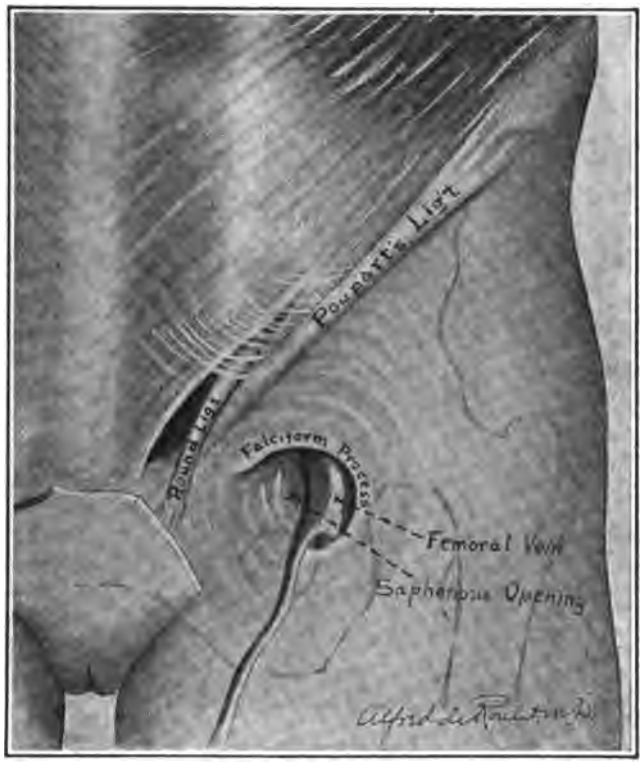


FIG. 1. Dissection Showing Inguinal and Femoral Regions.

Anatomy.—The groin is divided into the inguinal and femoral regions, the inguinal lying immediately above and the femoral below Poupart's ligament.

After removing the skin and superficial fascia from the inguinal region, the aponeurosis of the external oblique and the external inguinal ring are exposed. (Fig. 1). This so-called ring is merely a slit in the aponeurosis, its outer pillar being formed by Poupart's ligament, its inner pillar by the lower margin of the external oblique. The base of the opening corresponds to the crest of the pubis while the pillars themselves are bound together by numerous intercolumnar fibers.

From the inner end of Poupart's ligament a triangular band is reflected upward and inward toward the median line to blend with the anterior layer of the rectus sheath. This is called the triangular ligament, and is situated immediately behind the inner end of the external ring, and in front of the conjoined tendon, and serves to strengthen this point. Gimbernat's ligament, which is given off from the lower border of Poupart's ligament just before its attachment to the pubic spine, is a strong triangular ligament attached to the ilio-pectineal line, and is of considerable importance in femoral hernia.

The inguinal canal is an oblique passage in the abdominal wall lying immediately above and parallel with Poupart's ligament. Beginning at the internal in-

guinal ring (a half inch above the middle of Poupart's ligament) it extends downward and inward for an inch and a half, and terminates beneath the integument at the external inguinal ring. This canal contains the spermatic cord and ilio-inguinal and genito-crural nerves in the male and the round ligament and the ilio-inguinal and genito-crural nerves in the female.

The spermatic cord is a structure slightly larger around than a common lead pencil, and consists of the vas deferens and the artery of the vas with the cor-

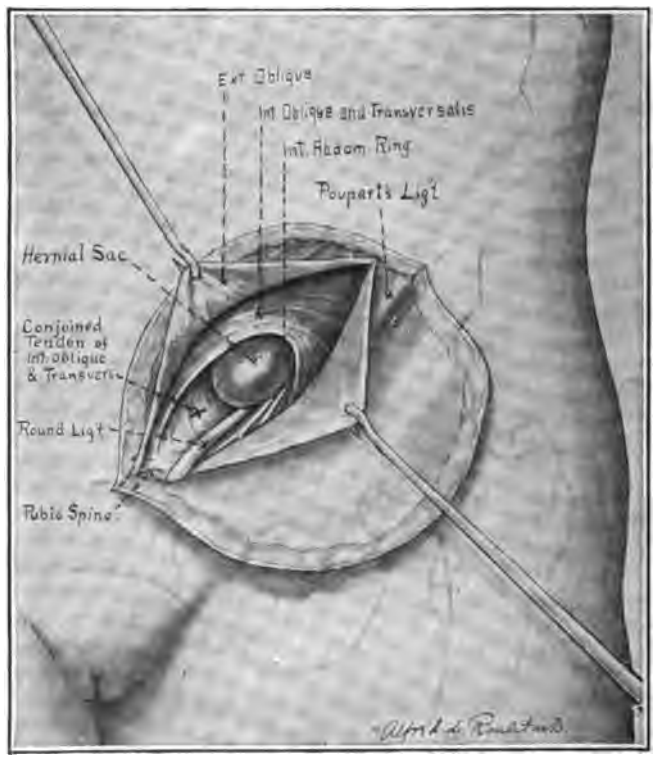


Fig. 2. Dissection Showing Relations of Hernial Sac in Inguinal Canal.

responding veins, the spermatic artery and the pampiniform plexus of veins. These structures are bound together, in the canal, by a strong sheath, the pampiniform process of the transversalis fascia. In the female the round ligament is small, and often difficult to find. Emerging from the external ring it disappears in the connective tissue of the labium majus.

On splitting the external oblique fascia the inguinal canal is laid open. (Fig. 2). This exposes the internal oblique with its

free curved edge arching over the spermatic cord. When this free edge is drawn upward and outward the transversalis muscle, which lies immediately beneath, is exposed. These muscles, the internal oblique and the transversalis unite to form the conjoined tendon, which is inserted into the pubic crest and along the ilio-pectineal line behind the external inguinal ring, and contributes to the formation of the posterior wall of the canal. The portion of the posterior wall lying between the outer edge of the conjoined tendon and the deep epigastric artery, is formed solely by the transversalis fascia.

The internal inguinal ring is situated a half inch above the middle of Poupart's ligament, and at this point the structures which enter into the spermatic cord converge and pass through the transversalis fascia. There is no communication between the inguinal canal and the peritoneal cavity.

Beneath the transversalis fascia is found the parietal layer of the peritoneum

with an intervening layer of loose connective and adipose tissue.

In the study of inguinal anatomy the deep epigastric artery is a landmark of considerable importance. Arising from

FIG. 3. Scrotal Hernia, Right Side.

the external iliac artery just before that vessel passes under Poupart's ligament, it runs obliquely upward and inward, crossing the inguinal canal about the middle, and dividing it in two parts, an outer and an inner. A hernia protruding through the outer part of the posterior wall of the canal and pushing downward along the course of the spermatic cord is known as an oblique or external inguinal hernia. (Figs. 3 and 4). This is by far the most common variety. A hernia protruding through the inner portion of the posterior wall, that is, through the triangular space between the deep epigastric artery and Poupart's ligament, is known as an internal or direct inguinal hernia. (Fig. 5). A hernia of this character does not pass through the internal inguinal ring, neither does it follow the course of the cord, but, pushing the transversalis fascia before it, passes directly into the inguinal canal to the inner side of the cord.

In addition to the direct and the oblique hernias already described, a third form, the congenital, is recognized. A congenital inguinal hernia develops as the result of an incomplete obliteration of the vaginal process. Should this process remain patulous throughout its entire length, the hernial contents simply push into the open pouch and the common form of congenital hernia results. Should the process become only partially obliterated, that is the upper portion become occluded while the lower portion remains open, an infantile (encysted) hernia may develop. In such a condition, the hernia with its acquired peritoneal sac passes downward within the sheath of the cord, pushing the unobliterated portion of the vaginal process before it. On dissection such a hernia shows apparently two separate sacs, the first containing the testis, the second the hernial contents.

Diagnosis.—Clinically inguinal hernia may be divided into three classes, reducible, irreducible and strangulated.

The physical signs of a reducible inguinal hernia depend largely on the size of the sac and the nature of its contents. If the hernia has not passed beyond the external ring (bubonocele), a fullness is noted in the region of the inguinal canal. (Fig. 6). Should the protrusion have ex-

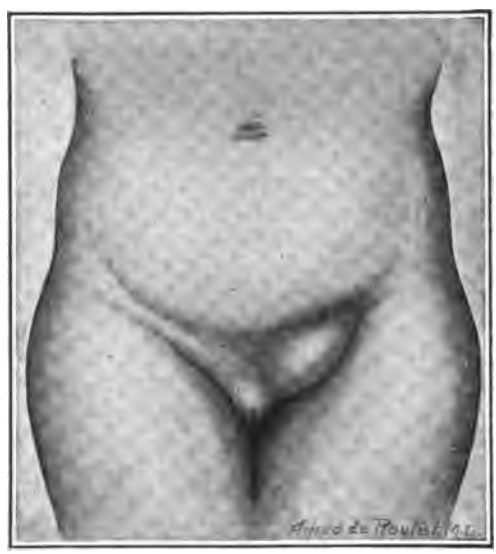


FIG. 4. Inguinal Hernia in Female.

tended beyond the ring we have the characteristic scrotal and labial hernias. (Figs. 3, 7, 8). The character of the tumor also varies with its contents. If bowel alone is present, the enlargement is

smooth and resilient, is resonant on percussion, gives a distinct impulse on coughing and disappears on pressure, the disappearance being frequently accompanied

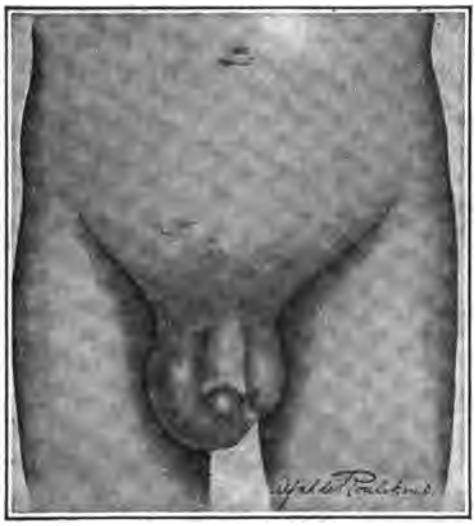


FIG. 5. Double Direct Inguinal Hernia.

by a gurgling sound. When omentum alone is present, the tumor has a doughy feel, is more or less irregular and ill-defined in outline, and may or may not give an impulse on coughing. The impulse when present, is often indistinct. An omental hernia usually becomes irreducible at a very early stage of its existence. In a hernia containing both bowel and omentum the characteristics depend upon the preponderating structures.

Pain of a dull, dragging character is present in the vast majority of cases, and the patients complain of a feeling of weakness and discomfort in the groin, this feeling being especially noticeable after any prolonged exertion. Should the hernia become irreducible, pain, either dull and aching or colicky, is usually present, while gastro-intestinal disturbances, as flatulence, indigestion, constipation, etc., are likely to develop. A localized peritonitis in the hernial sac is not infrequently observed. In exceptional cases where the protrusion is small and contains only omentum, the symptoms are so slight as to be scarcely noticeable.

In elderly patients as a result of dietary indiscretions, neglected constipation, etc., the lumen of the constricted loop of bowel may become obstructed, but without interference with the circulation. The symptoms of this condition are very mild at first, and of gradual development. Marked constipation is followed by symptoms of indigestion with complete loss of appetite, soon nausea and vomiting appear, the vomiting, however, is not severe, as a rule. A feeling of dull pain and discomfort is present in and about the hernia. This pain gradually increases, becoming sharp and colicky, and extending into the abdomen. The hernia itself is distended and tender on pressure. Impulse on coughing is present, though in many cases it is very indistinct and is distinguished with difficulty. The patient feels weak, but is not prostrated. The obstruction may persist for several days and then gradually disappear as the result of the administration of cathartics and enemata. Repeated attacks of vomiting, persistent constipation, with progressive aggravation of the symptoms would strongly suggest strangulation.

A local peritonitis may occur in a hernia as the result of mechanical irritation, as the pressure of an ill-fitting truss, or it may be due to the extension of infection

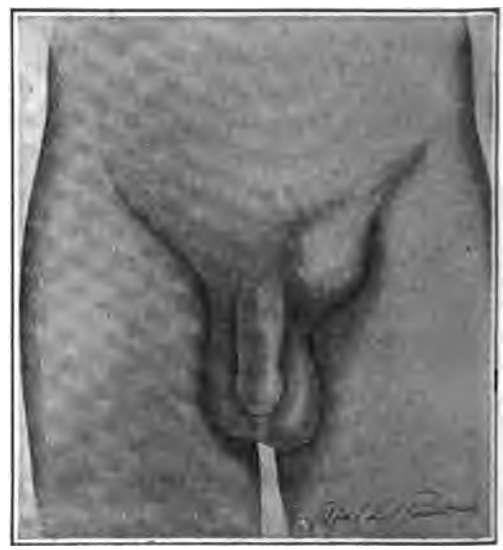


FIG. 6. Incomplete Inguinal Hernia. (Bubonocele.)

from neighboring structures. Both the sac and its contents are involved. The hernia becomes distended and local heat and tenderness develop, while a variable

amount of serous exudate is thrown out. The patient's temperature will range from 99° to 101° F., the pulse rate will be increased, while constipation, nausea and occasional vomiting will be present. In an omental hernia (epiplocele), the symptoms are not especially severe, and usually disappear in two or three days. In an enterocele the condition is much more dangerous, and requires careful treatment to prevent serious complications and sequelæ.

Strangulated hernias occur most frequently in middle and old age, and are rarely seen in children, and small hernias are more frequently strangulated than those of large volume. The symptoms are characteristic, and in most cases should be unmistakable.

The presence of an irreducible tumor in the inguinal region combined with pain, vomiting, constipation and symptoms of prostration should be sufficient to establish the diagnosis. The hernia is exceedingly painful, the pain being most marked along the inguinal canal, but radiating over the lower abdomen and around the umbilicus. The tissues overlying the hernia are tense and very sensitive to pressure. Redness, œdema, or emphysema of these tissues is indicative of gangrene of the bowel. In the early stages of strangulation the tumor may be resonant on percussion, but soon becomes flat. Impulse on coughing is practically indistinguishable.

Vomiting is persistent. At first the dejecta consists of stomach contents, but later becomes watery and bile-tinged, and finally stercoraceous. In the late stages the contents of the stomach and upper bowel are regurgitated rather than vomited.

Constipation is absolute in the majority of cases, no feces or flatus being passed. Occasionally the administration of cathartics and enemata will bring about an evacuation of the contents of the bowel below the point of constriction, and, in very rare instances, may cause a slight diarrhœa. Owing to the pain and vomiting combined with the inability to take nourishment prostration soon becomes profound, the pulse rate increases and the temperature is slightly elevated.

If the strangulation is not relieved, the prostration increases, the abdomen becomes distended and tympanitic, the vomiting more frequent, the features pinched and dusky, the expression anxious, the surface of the body cold, the extremities cyanotic. Hiccough and collapse immediately precede dissolution, which occurs within from three days to a week after the development of the strangulation. The following table will give the more important points of difference between the various forms of

IRREDUCIBLE HERNIA.

Uncomplicated.	Inflamed.	Obstructed.	Strangulated.
Impulse on coughing.	Impulse.	Impulse.	Impulse imperceptible.
Pain slight, dragging localized.	Pain, acute localized.	Pain moderate, localized.	Pain, severe, paroxysmal, severe, radiating over lower abdomen.
No vomiting.	Occasional vomiting, not severe.	Vomiting occasional or absent.	Vomiting persistent, uncontrolable. In late stages stercoraceous.
No tenderness and no distention.	Tender but not distended.	Slight tenderness with more less distention.	Tenderness and distention marked.
Moderate constipation.	Constipation, not persistent.	Constipation, relieved by cathartic and enemata.	Persistent constipation rarely affected by cathartics or enemata.
No prostration.	No prostration.	Weakness but not prostration.	Prostration marked.

When unable to differentiate, diagnose "strangulation," and act accordingly.

Differential Diagnosis.—While we have discussed at some length the differentiation of the various forms of inguinal hernia, it must not be inferred that all swellings in the groin are due to inguinal hernia. In fact, before this diagnosis can be considered established it is necessary to exclude (1) femoral hernia, (2) undescended testicle, (3) inguinal adenitis, (4) varix, (5) hydrocele, (6) congenital hydrocele, (7) hæmatocele, (8) varicocele, (9) iliac abscess, (10) aneurism, (11) malignant new growths.

Femoral Hernia.—Ordinarily femoral and inguinal hernias are differentiated

without great difficulty if it be borne in mind that the protrusion in an inguinal hernia appears above, and in a femoral hernia below Poupart's ligament. (Fig. 9). The course of this ligament is easily outlined by carrying a line from the anterior superior iliac spine to the spine of the pubes.

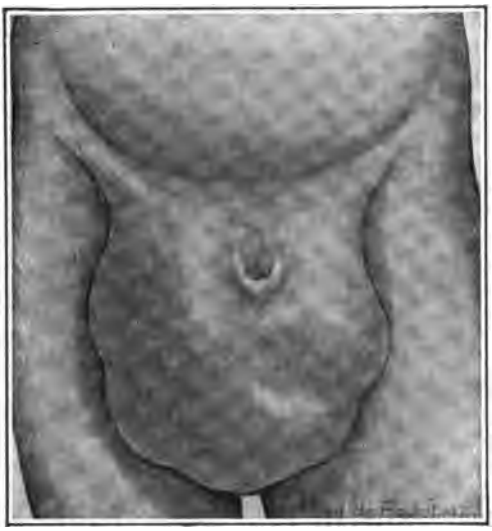


FIG. 7. Enormous Scrotal Hernia.

Undescended Testicle.—As a number of cases are recorded where an undescended testicle has been diagnosed hernia, in all cases of swelling in the groin the surgeon should examine the scrotum to make sure that it contains the proper number of testicles. In a case of undescended testicle the tumor is small, rounded, circumscribed; gives a dull note on percussion, and when compressed the patient complains of a peculiar sickening pain. The condition might be confused temporarily with hydrocele of the cord, but there is no excuse for mistaking it for a hernia.

Inguinal Adenitis.—An inguinal adenitis or bubo (Fig. 10), is occasionally mistaken for an irreducible inguinal hernia, and vice versa. A bubo, however, always begins with symptoms of acute inflammation, such as swelling, redness, tenderness, and pain, the pain being aggravated by walking or moving about. On examination of the tumor it is often possible to make out a distinct lobulated condition of the mass due to a matting together of the lymphatic glands. In many cases there are one or more areas of softening where the diseased tissues have begun breaking down. The tumor gives no impulse on coughing, and is not affected by the posture of the patient. Where the tissues have begun breaking down fluctuation is often elicited. The condition is often accompanied by more or less elevation of temperature.

Varix.—While not of frequent occurrence, a varix in the vicinity of the external abdominal ring may easily be mistaken for a hernia. Guido Turazzi reports a case in which a diagnosis of double inguinal hernia was made, and an operation for the radical cure was commenced, when it was discovered that the apparent hernia was simply a large varix at the site of the external ring. The tumor showed all the signs of an irreducible hernia, including impulse on coughing. In most cases of varix pressure over the tumor is sufficient to cause its disappearance. After it has been reduced it slowly refills even when a firm pressure is applied continuously at the external ring.

Hydrocele.—Occasionally a hydrocele may be mistaken for a hernia, but the

FIG. 8. Large Labial Hernia.

points of difference are well marked, and there should be little difficulty in differentiating the two conditions. Should the hydrocele be of only moderate size its rounded upper extremity can be outlined below the external ring. This point alone

should be sufficient to exclude the possibility of hernia. In cases where the hydrocele extends so far upward that it seems continuous with the inguinal ring, the following points should be noted: The hydrocele is a dependent tumor which has

FIG. 9. Femoral Hernia.

grown from below upward, the reverse is true of hernia. The growth of a hydrocele is slow but continuous, and is not accompanied by pain. The reverse is true of hernia. A hernia may develop suddenly, and is always accompanied by more or less pain. From time to time the tumor may disappear suddenly, only to return in the same way. A hydrocele is translucent, a hernia opaque. A hydrocele is dull on percussion; a hernia usually resonant. Fluctuation may be detected in hydrocele, but not in a hernia. In hydrocele the testis cannot be outlined, while in hernia it is easily felt outside of and generally below the hernial sac. When hydrocele and hernia coexist the line of approximation can usually be outlined, and the difference in consistence noted.

Congenital Hydrocele.—A congenital hydrocele presents practically the same physical signs as the ordinary hydrocele; it is translucent, fluctuating; gives a dull note on percussion, and an impulse on coughing. When the patient lies down, however, the fluid flows into the abdominal cavity and the swelling disappears. On standing the tumor slowly reappears, the enlargement beginning at the most dependent portion of the sac and extending upwards. In hernia the tumor reappears quickly and from above. Moderate pressure over the inguinal ring will prevent the recurrence of hernia, but not of congenital hydrocele.

Varicocele.—This condition is occasionally mistaken for hernia. On examination the scrotal tissues are often found relaxed and attenuated. Usually an irregular bulging is noticed on one or both sides. On palpation the mass is found to be soft and compressible, and imparts a sensation to the fingers as of a mass of angle worms imbeded in the tissues. When the patient lies down the mass disappears. There is no impulse on coughing. When the patient stands up pressure of the finger over the external ring not only does not prevent return of the enlargement, but rather causes the swelling to appear larger than before as the result of venous obstruction.

Hæmatocele.—This condition comes on suddenly after injury. The swelling is opaque, dull on percussion, and gives no impulse on coughing. On palpation the swelling feels doughy.

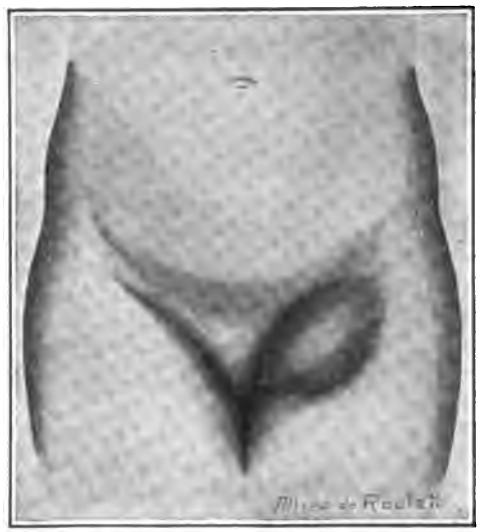


FIG. 10. Inguinal Adenitis.

Iliac Abscess.—An iliac abscess may extend so far forward as to cause a variable amount of swelling above Poupart's ligament. As the swelling is rounded and gives an impulse on coughing it may be easily mistaken for a hernia. The pres-

ence of fluctuation should suggest its possible nature. The existence of caries of the spine or pelvis, or the discovery of an abdominal enlargement communicating with the inguinal swelling, fluctuations being obtainable in all parts, should be considered sufficient to establish the diagnosis. A psoas abscess may occasionally point above Poupart's ligament, but as a rule it appears in the neighborhood of the femoral ring.

Aneurism.—Ordinarily the formation of an aneurism is very slow, and the patient's attention is first attracted by the presence of a tumor. This tumor is situated in the line of an artery, is not adherent to the skin, but is slightly movable, is regular in outline, soft and compressible, and pulsates synchronously with the heart beat. On auscultation a characteristic *aneurismal bruit* is heard. The expansile pulsation and the characteristic bruit should be sufficient to establish the diagnosis.

Tumors.—New growths are not at all common in the inguinal region. In a series of eight hundred and twenty-four cases of conditions erroneously diagnosed hernia, reported by the London Truss Society, there is but one case of sarcoma and two cases of lipoma, no other tumors being mentioned.

1013 Venetian Building.

[Written for the MEDICAL BRIEF.]

Catarrhal Inflammation of Middle Ear.

BY J. M. PATTERSON, M. D.,

Professor of Ophthalmology, Otology and Laryngology in the Kansas City Hahnemann Medical College.
Kansas City, Mo.

I shall confine this paper to catarrhal inflammation of the middle ear for two reasons: In the first place, because too often it does not receive the attention from the general practitioner it deserves. In the second place, because I do not care at this time to go into purulent inflammation, and the mastoid and cerebral complications that may arise from it. Frequently, what may begin as a simple catarrhal inflammation ends as a purulent inflammation.

Among most frequent causes may be mentioned the acute affections of the nasopharynx from a simple cold in the head, to those occurring in the acute infectious diseases, as scarlet fever, measles, whooping cough, pneumonia. The grippe has, during the past few months, been a very important factor in its causation. Another cause is use of nasal douche, or sniffing up salt and water for relief of nasal catarrh, by means of which water enters the eustachian tube. I believe, however, that there is not so much danger from this cause as is generally supposed, but I do think that one of the most common causes of acute catarrhal inflammation of the ear, as well as nose and throat, is the habit of wetting the hair. I have seen three cases of acute middle-ear trouble in the last two months that could be traced to a ride in a street car just after a shampoo.

Symptoms.—The first symptom to appear is "ear ache." This may be nothing more than a full, uncomfortable feeling about the ear, or the pain may be sharp and excruciating—more severe at night. Infants are liable to scream and put their hands to side of head. Pain often radiates about the ear and head. In children there is more or less fever, rarely delirium or convulsions. I have seen acute catarrh of the middle ear diagnosed as meningitis, until the discharge from external meatus showed the error.

The cause of pain is pressure on the drum membrane by the exudation, or the retraction of drum-membrane, resulting from the constriction of eustachian tube, not allowing the air to enter the tympanic cavity, and the air in the cavity being absorbed, so that the atmospheric pressure on external surface of the membrane causes retraction.

Deafness is more or less marked, and, as often the case, hearing is never after normal in the affected ear.

The appearance of the membrane varies. In mild cases it is slightly congested, especially about the long handle of the malleus. In severe cases the whole membrane is very red, or has a gray appearance on account of infiltration of its dermal layer. On account of the exudation, there is often marked bulging in the posterior superior quadrant. After evacuation of this exu-

dation, whether spontaneously, or from surgical interference, there is usually great relief from pain. In favorable cases the symptoms now rapidly disappear. The discharge keeps up for a few days, rarely longer than a week. The deafness usually remains longer than any of the symptoms. The disease shows a marked tendency to relapse.

Treatment.—The first thing is to relieve the pain. This can usually be accomplished by instillation of warm boric acid solution, but, as a general all-round earache medicine, I have found nothing better in twelve years than the formula recommended by Dr. C. F. Sterling, consisting of

℞ Fl. Ext. Plantago Major..... 4 drachms.
Tincture Belladonna.....20 drops.
Tincture Aconite Rad.....10 drops.
Magendie's Sol. Morphia.....20 drops.
Aqua Dist.....q. s..... 1 ounce.
M.

Of this five or six drops from a spoon, previously dipped in hot water, may be poured in the ear. Better than this, however, when you can see the patient, is the local application of a ten per cent solution of carbolic acid in glycerine. Apply by saturating a wad of cotton with the solution, and placing it in the external auditory canal, next to the membrana tympani. My attention was called to this treatment by Dr. A. H. Andrews, of Chicago, and since using it I have aborted many cases that would have, under other treatments, gone on to suppuration and perforation of the drum. I have so much confidence in it that I am satisfied that in cases where it does not relieve the pressure and stop the pain, nothing will do it but an incision of the drum.

Positively, no poultices to head or ear. One of the best things to be done is to gently inflate the middle ear by means of the Politzer air bag. Should pain in ear persist after use of above measures for one or two days, then I would advise incision of drum membrane at the point where the bulging seems greatest, which is usually in the posterior half. After washing out the canal with bichloride solution, one five-thousandth, a good free incision with a spear-shaped knife is made, followed by politzerization. This followed by cleansing of canal with boric acid solution, then drying with absorbent cotton. After this, blowing into the canal a small amount of the pulverized boracic acid. For the next few days thorough daily cleansing of the canal with the absorbent cotton twisted on end of probe, followed by light applications of the boric acid by powder blower.

Sometimes, in this stage, it is necessary (in order to thoroughly cleanse canal) to use a solution of peroxide of hydrogen. This treatment, in connection with daily inflations with Politzer air bag, for first week, then inflate every other day until all symptoms (including the dullness of hearing) have disappeared, will bring most every case to a favorable termination in from ten to twenty days.

It is of the utmost importance that the nasopharynx be carefully examined for adenoids, and these and enlarged tonsils receive the appropriate treatment.

Among remedies, aconite during stage of congestion, ranks first. After perforation, either puls. or merc. dulcis are usually indicated. To finish the cure and prevent relapses, no remedies equal kali mur, followed by calc. phos. or calc. carb.

In conclusion, I desire to emphasize the importance of these attacks. Parents (and physicians very often) pay little attention to them. If children who suffer in this way could always receive proper treatment there would be fewer cases of incurable chronic catarrh of the middle ear.

Commerce Building.

[Written for the MEDICAL BRIEF.]

Repair the Cervix.

BY DAVIS FORSTER, M. D.,

Professor of Diseases of Women, Barnes University Medical Department.
St. Louis, Mo.

In New York there is a hospital where the gynecological surgery is done by a general surgeon. This hospital is a corporation in wealth second only to Trinity Church, and has an outdoor clinic of an attendance second to none. The general surgeon does not indorse repair of the cervix, and it was my pleasure to study the effects of his attitude upon the patients of this clinic during a six weeks' stay in New York.

I found that by going through the histories of numbers of cases, that a case would give the following data:

Patients admitted to the clinic with a history of having borne a child; the cervix was lacerated; she presented symptoms of fullness of the pelvis, bearing down, and general subinvolution. As surgical relief was not offered, she received medical treatment in the out-patient department for a variable time of one, two, or three months, and with symptoms abated, discontinued her attendance at the clinic. Within a few months the same patient would return with a history of infection of the endometrium, and again would receive treatment for the endometritis, and again the abatement of symptoms, and again, after a partial relief, a discontinuance of her attendance. Again, within six months or a year, the same patient would be enrolled, and by this time the infection will have traveled into the fallopian tubes, and then she is an applicant for surgical relief, either a salpingectomy or a hysterectomy.

To an outsider this course of events seems lamentable, for knowing that cervical laceration was first demonstrated by Dr. T. Addis Emmet, in New York, where he, by grasping the everted lips of the cervix and bringing them together, showed a definite solution of continuity, and not that supposed pathological entity, a cicatricial ectropium, demonstrated that relief for the condition was found in surgical repair. Therefore, one would expect to find in clinical work that the cervices were repaired as soon as diagnosticated, and not allowed to linger and bring on the baleful effects with which we are familiar.

Laceration of the cervix is nearly always caused by labor or abortion, sometimes by too rapid dilatation of the cervix. The uterus is a muscular body, with circular and longitudinal fibers. When the cervix is lacerated the point of attachment of the longitudinal fibers is interrupted, and the uterus is unable to contract itself; therefore, we find the uterus in a condition of subinvolution, heavy, boggy, infiltrated with serum, pressing down upon the weakened subinvoluted tissues of the pelvis. The lacerated cervix leaves open nature's mechanical gateway, through which infection can readily enter by continuity of mucosa; the infection can creep in through the lymphatics into the cellular tissue surrounding the uterus, or into the structure of the uterus itself. The infection by continuity of mucosa is, broadly speaking, by the gonococcus of Neisser; if through the lymphatics, more often of septic origin.

The uterus, though subinvoluted, is not necessarily infected immediately after laceration. The laceration is the cause of the subinvolution. The heavy uterus swinging in its hammock, the broad ligament, is apt to be drawn back into retroversion, either by its own weight or intra-abdominal pressure, lying back against the rectum, with infection creeping in; and following the infection Nature attempts to build an inflammatory wall for her own protection, and we find plastic exudates, which fix the uterus in its position of adherent retroversion.

The question will, doubtless, be asked, What ought to be done? The prophylaxis of the case belongs to the obstetrician. He should not make pressure upon the fundus of the uterus until the uterus is empty; he should not give ergot until the uterus is empty, nor should he apply forceps until the cervix is thoroughly dilated, nor rupture the amniotic sac until it has performed its function of dilating the cervix.

After the laceration has taken place, it is but due the patient, in order that she may have to submit to the minimum of danger, that this cervix be repaired as soon as possible. Putting off or refusing to repair this cervix is placing the patient in jeopardy, and can but be considered reprehensible on the part of the surgeon, and is but one more argument in favor of gynecological work being done by gynecologists, who study the problems of a special department more closely than one who gives his attention to general work, and considers these seeming small things of minor importance.

5249 Raymond Avenue.

Enclosed find one dollar for the BRIEF for one year. I get many good points from the BRIEF.—WARNER HERINGTON, M. D., Green City, Mo.

[Written for the MEDICAL BRIEF.]

Punctured Wounds by Venomous Animals.

BY R. MENGER, M. D.,
San Antonio, Texas.

Texas, with its vast territory of over two hundred and seventy-four thousand square miles, has been greatly cleared of venomous reptilia of all sorts during late years—due to its rapid upbuilding and immense cultured plains. Vast numbers have been made homeless by hunters, birds, and animals of prey, and by professional reptile dealers. But there still exist large, secluded regions where the dreaded rattlesnake and others roam about, and at the beginning of each warm season punctured wounds by venomous reptiles and insects occur more or less frequently and severe, according to climatic influences and conditions. Occasionally farmers, hunters, fishermen, and others on trips over the open prairie plains, or along river bottoms, in the fields and forests, etc., are liable to be bitten by more or less dangerous serpents or some spider species, especialy the small, speckled vagabond or jumping tarantula (*Latrodectus mactans*). Several such cases and two deaths from crotalus wounds have occurred lately, and the writer has seen three, and treated two severe cases of rattlesnake injuries lately. The symptomatology and treatment of such cases is well known, and the purpose of this paper is more intended to call attention to a matter in connection with the first aid treatment, often misused (in particular by the victim), namely, the overzealous tight bandaging of a bitten member in overdue time. I could recall several instances where the lower extremity was so tightly and prolonged ligated that the victim either died before medical aid could be summoned, or gangrenous inflammation set in from too long time bandaging.

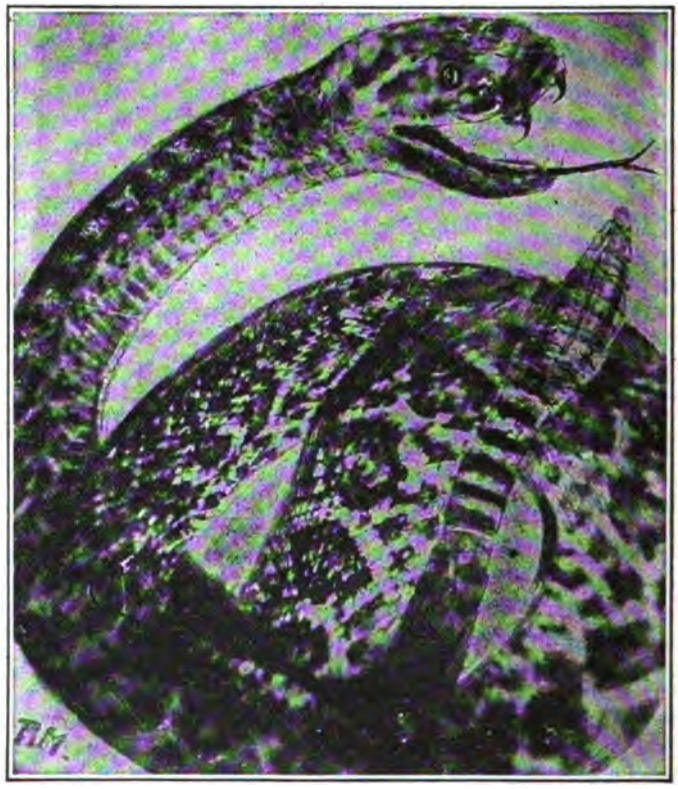
The main trouble in snakebite cases, of course, is that the victim generally gets bitten unaware, and without in any way being prepared with even the simplest emergency appliances; or, perhaps, the inflicted wound is only of a trifling nature, and in such cases, if the victim lives very far off from medical aid, and the member is too long a time ligated, serious harm from the latter procedure alone may occur. But it is certainly always the first and best plan to ligate the member close above and below the punctured fangwound; then open, or scarify the punctured place, and, if possible, suck the wound, and apply, or, rather, rub several pulverized crystals of permanganate of potash into the wound; or, still better, inject a solution of the latter by the hypodermic syringe—if at hand. Then give sedatives and heart stimulants—strychnia, aromatic ammonia, etc., and immerse the injured member (often repeated) in a basin of very warm, saturated solution of permanganate of potassium, or chloride of sodium, if the former is not at hand. Pilocarpine and other diaphoretics and heart stimulants must be kept up, according to the condition of the circulation, kidneys, nervous symptoms, etc. The length of time a tight bandage may be left in place depends on circumstances; at any rate, it should be occasionally loosened, and if symptoms of syncope, weak pulse, or respiratory embarrassment occur, it can be tightened again, and proper remedies applied at once, hypodermically.

I may relate here my last case of crotalus bite—a Mexican lad, aged eleven years, who was bitten by a young rattler, only about one and one-half feet long. The age of a poisonous serpent hardly makes much difference as to the virulence of the venom, but much depends upon whether the parts bitten are very vascular, etc., and the size of the fangs, which, in an old specimen, of course, is nearly twice as large as in a very young one. But the main idea of reporting this case is to show how absurd it is to leave a tight bandage in place longer than necessary.

The boy, who lives in the far-off suburbs of the city, it seems, in removing water from a water barrel in his yard, stepped on the rattlesnake, which at once plunged, at two successive strokes, its fangs deeply into the dorsal part of the boy's right foot, he being barefooted. It was already late in the evening, and some time elapsed before a suitable ligature was procured by the parents, and when brought to my office the boy's leg was very tightly ligated, in four places, up to the knee joint, and very much swollen. The boy showed

signs of syncope, weak pulse, etc. I gave him strychnia, also aromatic spirits of ammonia; made quite deep incisions into the punctured wounds, and put the foot in a very warm solution of permanganate of potash. The patient showed all symptoms of venom intoxication.

The parents were instructed not to loosen the bandages until after arriving at their home, and to inform me, if need be. But, instead of this, and to my great surprise, they left the tight bandage on all night long, and even constricted the leg more tightly, so that when I saw the boy again his leg was very odematous and discolored, and the bandages cutting deeply into the fleshy parts. After removing all four ligatures at once, the swollen leg was scarified and immersed in very warm saltwater, with solution of permanganate of potassium, which, after repeated applications and after several days, relieved the congested and odematous condition of the leg, which showed ecchymosis and blue streaks, even beyond the knee joint, and I feared gangrene would set in. The boy would scream when the leg was merely touched, and the foot was badly swollen; the upper side, where the fangs penetrated, showing gangrenous disintegration of the cuticle and deeper parts of the entire dorsum of the foot and the toes. This condition continued, more or less severe, for some time, but gradually I managed to control the inflammatory process, especially after applying iodoform ointment to entire foot, and after also irrigating the parts with bichloride solution. After the third week I removed, with the aid of curved scissors, all gangrenous superficial integuments, which were quite adherent and resembled a piece of black parchment about one-half hand broad, and also the denuded cuticle of the toes. The case afterward and now is progressing very favorable, and the swelling of the leg is entirely gone, and the foot nearly of normal size.



Crotalus Adamanteus Texensis. From Nature by Author.

I am quite sure the prolonged tight bandaging, in this case, caused more havoc than the venom inoculation, and that it would have done even more harm had the foot and leg not been well scarified in time, and the course of after treatment, as outlined, applied.

In conclusion, I submit three photos—one showing the Texas crotalus; the fangs of a rattler magnified, and a section of such tooth. It will undoubtedly interest such readers of the BRIEF not particularly informed on the subject. I prepared the photo of the three fangs from nature from specimens at our San Antonio Museum of Natural History, San Pedro Springs Zoological Garden and Park, showing the fangs magnified about five times. In the two large and permanent fangs, the upper (maxillary) portion shows several hollow cavities. These bone cavities communicate with the two muscular venom sacs, or glands, situated in the upper roof part of the snake's mouth—close to the bony cavities of the matured fangs. The latter are covered by a very strong, but retractable cover-membrane, which, in striking, retracts up to the base of each poison fang. During the latter act, which resembles the working of a hypodermic syringe, the muscular venom sacs are compressed and eject the venom into the common venom duct, leading into the central venom canal of each fang (and more plainly depicted in the third photo submitted, at *b*), where the venom is ejected close to the point of the tooth, within a grooved opening (at *b*), situated at the outer curvature of the tooth.

Inoculated wounds from rattlesnake bite are not always fatal, depending upon the parts injured, the amount of venom inoculated, susceptibility, etc. In some instances the snake's tooth breaks off in striking, or it already has lost the mature poison fang, or it penetrates thick clothing, the boot, shoe or legging, before the teeth reach the flesh, and in such instances only painful and superficial wounds are inflicted—all depending, more or less, on whether the fang had penetrated beyond the outlet of the venom canal (see illustrations)—about one-eighth of an inch from the point of the tooth. When, though, the

Three Poison Fangs of Texas Rattlesnake, One Rudimentary (the Inside, Smaller Tooth). Front View. Magnified from Nature by Author.

fang enters beyond the venomous outlet and lacerates vascular parts, the intoxication symptoms are pronounced, and, in case of direct laceration and inoculation of a vessel, especially an artery, the venom

Longitudinal Section of a Rattlesnake Tooth, magnified, showing (a) the pulp cavity; (b) the venom canal, and (c) the outlet (in a grooved hollow) of the venom canal. Side view. Drawing by author.

symptoms are at once alarming, and in most of these instances they are fatal. Fright, during the sudden encounter with a rattler or moccasin, with the alarming "hiss" of the rattler's tail end, and the consequent shock upon the nerve centers, especially the heart centers, undoubtedly has also caused sudden death in some instances. But there can be no doubt that the venom of these dreaded reptilia is a deadly poison—attested by the numerous fatal cases reported off and on throughout the continent. Our elderly practitioners, especially the pioneer physician and surgeon, Dr. F. Herff, of western Texas, could write volumes on their extensive experience with inoculation wounds of venomous reptiles and insects. From my own cases during a long term as city physician of San Antonio, Tex., some years ago, and during private practice, I had occasion to witness and treat quite a number of serious and a few fatal cases of serpent and spider bites. A few years ago a case came to my notice, in which a farmer from Medina County was plowing in his field and, coming across a rattler, or, rather, his plow, severed the snake in two parts, leaving only the neck part intact. The farmer, thinking the snake dead, went on plowing. In turning back from the opposite end to the place where the plow had run over the reptile, he noticed something like a stick among the weeds, and, in the endeavor of picking it up, he, unfortunately, seized the severed snake's neck part. With a

sudden strike the rattler plunged its fangs into the farmer's hand, and before a few hours had elapsed the man was dead.

This case shows the immense vitality of these animals, and it corroborates an ex-

periment the writer had made many years ago with a moccasin snake's head part. For certain purposes I had the head and neck part of a moccasin severed by a stroke of the hatchet, and preserved the head part for over six hours, and at this time it was still alive, and in endeavoring to put a plug in its mouth—the neck part being nailed to a board—the snake opened its mouth widely and ejected two yellowish and glitering venom drops from the outlet of its fangs, resembling egg albumin. The jaw muscles and entire pharyngeal muscular apparatus, down to the stomach of these animals, are of enormous vitality and strength, so that the mouth parts and entire digestive canal can expand enormously. Reliable farmers and hunters tell me that they have seen a rattler devouring a full-grown jack rabbit, and in company with my friend, Dr. R. Lee Withers, we encountered some years ago a monstrous rattler—out on a hunting trip in the jungles of cacti and Spanish dagger plants of a large pasture. The reptile was fully stretched out, five feet long, and of enormous thickness. It had its tail end erect, rattling fiercely, and in its wide-open mouth it had a large, full-grown cottontail rabbit—swallowed up to the rabbit's shoulders. A shot at close range made an end to his majesty of the cacti plains. On dissection, later on, by a reptile dealer, who tanned the beautiful skin (and which is still a trophy to be seen in Dr. Withers' office), the abdomen of the snake contained two large prairie rats.

Finally, I beg to call attention to the photo illustration—the boy's foot about the end of the fifth week. It shows the spot where the reptile had inflicted the punctured wounds; the extent of gangrenous sloughing, now nearly healed, and the cicatricial tissue formation, and small hollow part still granulating (but filling up rapidly). Two of the extensor tendons could be outlined in this hollow part. The boy is able to walk, to some extent, on the foot, and feels in fine health now.

725 East Commerce Street.

Here is a dollar for continuation of the dear old BRIEF.—W. B. KING, M. D., Pelahatchie, Miss.

[Written for the MEDICAL BRIEF.]

Pneumonia.

BY JOSEPH D. HARRIGAN, M. D.,
New York City.

Were we to believe one-half that is written nowadays in favor of the theory that nearly all of our diseases are caused by germs, we might well discard as useless the studies of physics and chemistry.

We might well question the advisability of spending years in acquiring knowledge in these branches of science, when the end-all for the physician would consist in the possession of a microscope and the indefatigable pursuit after germs.

Our training in the wonderful sciences that treat of the great forces in nature ever working to effect physical changes in the material things of earth, as well also as those pertaining to the chemical transformations and combinations that tend to completely change the essential nature and potentialities of these things, goes for naught.

We see all things around us constantly changing their forms, their structures, etc., with resulting changes in their capabilities, powers and developments, all due to physical and chemical metamorphoses, transpiring either in their own individual entities or by reason of the physical and chemical action of those entities pertaining to their environments; in other words, by reason of their relationships, proximate and remote, to the other things in nature, and influenced in various ways by the forces with which those neighboring entities are endowed.

We look for changes in the things around us due to the physical and chemical activities of nature and we find the ultimate result a disintegration, a reciprocal universal interchange.

The physical and chemical forces are the active, prime agencies involved in these processes of change, aided to a very great extent, at times, by the physical and chemical attacks of animate entities denominated, according to structural peculiarities, development, essentials, etc., as higher or lower forms of life.

Irrespective of the aid rendered by the animate entities that participate in these universal changes, the great dominating

ultimate factors that we must hark back to, always and ever, are the physical and chemical forces to whose activities we must all pay tribute.

To consider any one factor exclusively in our investigations of these changes around us and in us to the neglect of all other factors, is unscientific and on the face of it absurd.

To make allowances for all the forces at work on the inanimate things of nature by which we are surrounded, gauging accurately the value of each as a factor in the changes wrought, but limiting our researches to a consideration of only one of these factors, when we come to think of the changes wrought in ourselves, is, to say the least, anything but a broad-minded and comprehensive investigation of the subject.

The complete ignoring of chemical action as a prime cause of disease, irrespective of germs, is deplorable.

The slighting of electricity, magnetism and other forces of nature and the enthroning in their stead, in the abnormally high position which it now enjoys, of germ activity, is like rhapsodizing the moonlight and forgetting completely the source of its reflected light.

When we recall the fact that germs are but the reflection of the chemical and electro-chemical action by which they are produced—in other words, when we realize the all-important fact that without chemicals and chemical and electro-chemical action we would have no germs, it would seem that the pursuit of them would become of secondary importance as compared with investigation of the materials and forces from which and by means of which they have their excuse for existence.

This necessarily brings up the point that where germs are found in certain diseases, those diseases could not eventuate without chemicals and chemical action as their initiative, and also emphasizes the fact that the diseases themselves are as likely to be initiated by the chemicals and chemical action that produce the germs as by the latter, which nothing prevents one from considering as merely by-products.

Of all the diseases to which the human family is subject, and one which might be taken as a striking example of pathological changes due solely and decidedly to purely physical and chemical agencies, pneumonia stands forth as one of the most important.

It exhibits most unmistakably those characteristics of change that we see evidenced all around us in nature and that we speak of glibly as due partly to the action of the "elements," which, as we all know, are simply chemical and physical forces in action.

The human organism not being exempt from the physical and chemical changes that affect all things in nature, we must expect to find molecular transformations due solely to those agencies and entirely apart and distinct from the agency of germs.

From the very commencement of an attack of pneumonia we can easily trace these physical and chemical forces at work.

In no way is this better illustrated than in that form of pneumonia that is seen frequently in patients confined to bed suffering from other diseases, and due to improper circulation of the blood through the lower portions of the lung from weakened heart action, from long-maintained recumbent position, etc. We call this condition hypostatic pneumonia.

We have two physical forces of nature brought to our consideration here, as initiative of this condition, viz.:

1. The force of gravity.
2. Weakened nerve force, or dynamic energy, both as to the *vis a tergo* and likewise as pertaining to the tonicity in the muscular coats of the vessels themselves.

The result is a passive congestion with consequent inflammation of low grade of intensity, the inevitable effect of the crowding together of the molecules of the blood, the interference with the nutrition of the blood corpuscles incidental to this crowding, and hence agglutination, splenition, etc.

There is not the slightest excuse for the injection into the question of germs as explanatory of the condition.

The agencies involved are purely physical and chemical, and the results obtained are purely physical and chemical.

If germs develop as a consequence of the forces in action they take the same position as secondary products, as did the *acari*, in the experiments of Mr Crosse, of Broomfield, in his laboratory work in electro-chemical crystallizations, in the course of which were produced quartz, arragonite, malachite, etc.

His results were confirmed by the experiments of Mr. Weeks of Sandwich, in Kent, conducted under the strictest scientific precautions, Mr. Weeks again succeeding in producing the acari.*

From hypostatic pneumonia we might proceed through the various forms of circumscribed pneumonias, each having distinguishing features due to variations in their several modes of origin, and of varying degrees of intensity owing to variations in the activities of the causes producing them, but to do them full justice would require more space than this article permits.

Suffice to remark that in all of these pneumonic conditions careful and painstaking investigation will show that they are initiated by means of purely physical and chemical agencies.

The proof of this assertion will probably be better and more clearly borne out by taking up a case of typical acute lobar pneumonia, and from a careful analysis of the various forces of nature undeniably present and that can be shown to act so as to unmistakably produce the disease, an understanding of the modus operandi in the other varieties of pneumonia will, we have no doubt, be clearly apparent.

A boy is out in the fields in the springtime, playing ball. The chill of winter still hovers in the air. He becomes overheated from the exertions of the game, exhausted temporarily perhaps by his vigorous running, and, out of breath, throws himself on the ground to rest. Well, the result can be readily foreseen.

The body, cooled too suddenly, has certain of its functions completely interfered with.

We all know what happens when a swiftly moving body comes to a sudden stop. If the speed has been great enough and the stoppage sufficiently sudden, something gives way.

A displacement of the component parts of that body, *i. e.*, its molecules, supervenes.

Now, in the case of the boy just mentioned, the functions of the body, brought to the highest state of activity, are suddenly interfered with, the caloric energy has almost a sudden stoppage.

We know what happens when a highly heated piece of iron is cooled too suddenly. The molecules making up the piece of metal have not sufficient time permitted them to adapt themselves to the sudden change; they have no time to move into their delegated places, as we might say, in an orderly manner. There is disorder of molecular arrangement, and, in the molecules themselves, a structural change. Then eventuates the change in the piece of iron as a whole which we call brittleness.

In like manner, in the animal economy, the sudden change from a superheated condition to one many degrees cooler, must be followed by a disarrangement of molecular harmony. The molecules have not sufficient time in which to adapt themselves to the sudden change. They are crowded together and their functions interfered with. Like passengers in a street car brought to a too sudden stop, they are piled in confusion, their structural parts strained and injured, and impairment of function, due to this condition of congestion, results. If this congestion is unrelieved, electro-chemical phenomena that we call inflammation eventuates.

One result of this congestion is an agglutination of the molecules with the formation of a jelly-like mass, this being the stage of hepatization.

Throughout the whole process there has been nothing but the operation of physical laws involved.

Then follow the various disturbances throughout the system due to lack of oxygenation of the blood, functional and organic changes taking place in various parts of the body.

The fact that more than one person is sometimes attacked at the one time in the manner above described does not justify us in leaving the domain of physics and chemistry for a cause and settling upon "germs" to help us to an understand-

*Medical & Surg. Elect., Beard & Rockwell, pp. 47. 48.

ing of the case, terming the disease "infectious."

At a ball game recently several of the players went home to sick-beds under exactly similar conditions to those outlined in the typical case mentioned above. They were students at a college in New York. Two of them died, while two more were seriously ill for some time—all from pneumonia.

One might just as well claim that a half dozen firemen overcome by fumes in a burning warehouse and rescued half suffocated were exposed to "infection" and that their sickness was caused by "germs" as to accuse germs in the case of the young men above mentioned.

(To be continued.)

[Written for the MEDICAL BRIEF.]

The Examination of Fresh Blood.

BY ROBERT L. WATKINS, M. D.,
New York City.

The Boston Convention of the American Medical Association has revealed to the writer that physicians are more and more studying and making daily use of fresh blood for determining disease. This is very gratifying to one who has been a pioneer in this line.

In order to obtain all the details that can be seen in the fresh blood specimens, it must be placed on a glass slide and be under the eye in about two seconds after the blood leaves the wrist. The cells will then be seen to be in motion, the erythrocytes will be observed to swim past the field of vision in the plasma, reminding one of chunks of wood rushing down stream in a freshet. This is the only way to study fresh blood for diagnostic purposes.

Healthy specimens will show the cells floating by with a distinct contour, singly or all together. If unhealthy, the individual cell will be seen to be distorted and flabby, tumbling over itself as it floats through the plasma, and may be full of apparent nuclei.

The erythrocytes may be sticky and form patches here and there, either alone, or mixed with leucocytes, urates, crystals, germs, ferments or debris. When these patches of cells and other matter settle down as the motion ceases, they resemble little islands, and other characteristics appear which can be studied at leisure; for instance, fibrin: This cobweb network so prominent in rheumatism begins to make itself visible in the plasma.

Some important things disappear permanently and others make their appearance to better advantage. Suppose a patient shows ferments in his blood which come from the stomach—it is a visible sign and positive evidence of a pathological change—and these can only be seen in freshly drawn blood. This being the first examination, it is reasonable to suppose that under proper treatment, the second examination will show a diminution or entire elimination of the above pathological ferments. The physician then has something definite not only to tell the patient, but something definite on which to base his treatment.

Suppose a patient has a marked rheumatic condition denoted by adhesiveness in cells and crystals in the plasma, the next examination shows that this condition and these products have disappeared.

No questions have been asked, nor need to be, in such cases, for fresh blood examination reveals physical sign-evidences.

Recently, I was called out of town to examine a man suffering from a slight attack of rheumatism; the rheumatism was very evident in his blood, but an excessive number of leucocytes, in this case, indicated an inflammatory condition, and before the day had expired the patient came down with a severe attack of tonsillitis. The excessive white cells showed something was wrong, and a little time only was necessary to develop it.

No stains were used, no differential blood count was made; it was simply a fresh blood examination of a few seconds' duration. (In cases like this, a micromotoscope photograph often is of great service as a matter of record, and also much more service in teaching fresh blood examination methods).

A year ago I had a patient from a distant State for examination for syphilis, the spores of this disease were found and he was advised to take a course of tonics under the direction of his physician.

He came back a few days ago and the fresh blood revealed an almost entire elimination of the evidence of syphilis.

There is little doubt that at the next examination there will be no signs whatever of the disease.

Another gentleman recently came from Washington, complaining of hypertrophic growths in various parts. He thought it was syphilis—the result of a doubtful chancre of some years previous. The blood revealed no evidence of syphilis, thus showing he had been cured or that his first sore was not a chancre but a chancroid. This relieved his mind and he said was alone well worth the trouble.

These and many other such cases are the evidence of things seen and not things guessed at, they are the result of fresh-blood examination. Many of these results any doctor can obtain, if he will take a little time in the observation and study of his own cases.

[Written for the MEDICAL BRIEF.]

What is Homeopathy?

BY N. SISCA, M. D.,
Killarney, Queensland, Australia.

(Continued from page 488.)

III.

Coming, now, to the crucial question, "What is homeopathy?" I have very little doubt in my mind but that if a kind of allopathic plebiscita were taken, so as to collect the largest possible number of answers to it, ninety per cent of all the answers would be somewhat like this: "Homeopathy is a sort of quackery, the practice of whose adepts consists in giving infinitesimal doses of medicines, which can do neither harm nor good; no better, in fact, than old women's nostrums, and the cures ascribed to it are mere products of the imagination." But that is not so. Those answers would have no other foundation than prejudice and hearsay evidence, very poor things to base anything on under any circumstances, and I maintain that for our own interest it is necessary that we should know the truth, and should not be afraid of facing it, be the consequences whatever they may.

And the truth is that homeopathy, as such, is no quackery, but that it admirably lends and has lent itself to unlimited quackery from its very beginning, nobody can deny. Nurses and midwives, barbers and herbalists, clergymen and missionaries, army and navy officers, mostly on the retired list, without mentioning others, whose names are legion, and who somewhat late in life find themselves with nothing more pleasant or more profitable to do, all these seem to have a peculiar fancy for "a little homeopathic doctoring, you know." Of course, they would do the same with allopathic medicines if they could, but they dare not. Allopathic medicines are generally mixtures, and they are known to be rather unsafe for lay people to meddle with. Besides, they are, as a rule, more or less unpalatable, and last, but not least, they are rather expensive. But with homeopathic medicines it is quite different.

That is how the public talks, but whether it is for those or other reasons, the fact is that homeopathic quackery is very prevalent, and I should not be at all surprised to hear that in the United States homeopathic quacks are as numerous as homeopathic physicians. And what is still worse is that all homeopaths, from the top to the bottom of the Hahnemannian ladder, endeavor to do all they can to popularize, as they say, homeopathy by publishing cheap books for the public, such as "Household Medicine," "Family Practice," "Family Homeopathist," etc. And yet, in spite of all that, we have no right to say that homeopathy is quackery.

We are bound to acknowledge that homeopathy is a method of therapeutics based on three fundamental principles; which, though appearing to our uninitiated minds like absurdities and paradoxes, have yet stood the test of a century of criticism and opposition, and for those who practice in accordance with them they are as true and reliable to-day as they were one hundred years ago when first proclaimed by the man who rediscovered them. Those principles are: (1) *Similia similibus curantur*—let likes be treated by likes; (2) small doses; (3) single remedy.

1. *Similia similibus.*—In order practically to understand the meaning of this principle, which is the very kernel of homeopathy, we will do well, I think, if we make a brief excursion into our own allo-

pathic field, and in so doing we could hardly choose a more reliable guide than Ringer's "Handbook of Therapeutics."

Beginning, for choice, with mercury, at page 256 (eleventh edition), we read of mercury as purgative, while on the following three or four pages the perchloride in doses of one-eighth grain, and grey powder in doses of one-sixth and one-third grain, are recommended as powerful antidiarrheics.

At page 293 we find arsenic responsible for the production of eczema, urticaria, lichen, etc., while on page 297 we read the statement that it cures psoriasis, eczema, lichen and pemphigus. At page 417, the author speaks of ipecac as "a mild, tardy, but certain emetic," and on page 418 he tells us that "few remedies are so efficacious as ipecac in checking certain kinds of vomiting."

Finally, to quote only one more instance from Ringer, at page 493, we are told that jaborandi and pilocarpine are powerful diaphoretics and sialagogues, and on page 495 we find the seemingly contradictory statement that pilocarpine in doses of one-twentieth of a grain checks profuse perspiration, while, further on, Dr. Ringer tells us this: "Not only do arresters of secretions, like atropia, etc., check excessive perspirations, but sweaters in small doses are equally effectual in checking undue perspiration, as in phthisis."

Now, have we, or do we know of any theory that could explain to us this kind of double dealing on the part of drugs, this, to all appearances, contradictory action? How can the same remedy produce and check perspiration, induce and check vomiting, purge and stop diarrhea? Ringer simply states that it is so, but does not say why. Shall we, then, accept the statement as we read it, and act upon it without inquiry, which, alas, we very often do, or shall we for once become inquisitive, and demand an explanation from those in authority? We should, of course, choose the latter as the more reasonable alternative; but if we do so, then we must try and find out things for ourselves, as those in authority may either, like ourselves, be unable to give a clew to the riddle, or else they may be unwilling. And, so far as I am aware, the only clew, the only plausible explanation of why a drug should act in two differently and seemingly diametrically opposite directions is the homeopathic principle *similia similibus*.

Once more, then, What is implied by *similia similibus?* An ounce or so of sulphate of magnesia, taken in health, will purge, but a few, sometimes as few as five, grains of it is one of our best remedies for certain kinds of obstinate diarrhea. Here, therefore, is what the principle means: Every drug given to a person in health in large and, if necessary, repeated doses, produces some sort of disorder, ailment or disease, which disorder, ailment or disease that same drug, given no longer in large and repeated doses, but in small, at times very small and not necessarily frequent ones, will cure, in the person suffering from it. In other words, a drug will cure in the sick the same disorder, ailment or disease which it produces in the healthy. Hence, the definition of homeopathy as "the therapeutic method of prescribing medicines, which, when taken in health, produce a condition similar to that we desire to cure."

Here, however, the question naturally arises: How have the homeopaths succeeded in finding out the effects of drugs on healthy persons? And the answer is: (1) by the so-called "provings;" (2) by the symptoms in cases of poisoning. "Proving" means experimenting with drugs upon the healthy. A person in health takes, for example, a fairly large dose of aconite, repeating it, if necessary, until symptoms are produced, which symptoms are duly noted, together with all the circumstances connected with them, that is, the time when they first appeared, how long they lasted, the time of their highest intensity, the order of succession, etc., etc. When several provers have been thus experimented upon, all the symptoms are duly checked, arranged and, finally, set down as the pathogenesy of the drug. As it is unnecessary for me to mention all the vicissitudes of the various provings, and all the pruning which it has been deemed necessary to subject many pathogeneses to, I will content myself with saying that by far the largest majority of the pathogeneses, as they exist at present, have been expurgated from untrustworthy

symptoms and that, therefore, they are considered quite reliable.

We shall see, in the course of these notes, that the homeopaths themselves admit that *similia similibus* has its limitations, and that, therefore, it can not be claimed that it is an universal and absolute principle, likely to hold good in every conceivable case, but what they do claim is that it does hold good in a very large majority of cases, so large, in fact, as to make the limitations of very little importance.

IV.

2. *Small Dosage.*—Though only the second in importance of the three principles which govern homeopathy, this is, nevertheless, almost the only one by which homeopathy has been known in the past, and is known even now to the public at large, as well as to the largest majority of allopaths. The jokes about the minuteness of homeopathic doses have become proverbial, and any man would be sure to resent being told that his mental abilities or moral qualities are rather homeopathic. The smallness of the doses, moreover, has also to account for the other popular notion that homeopathic medicines are quite harmless, so much so that even a bottleful of any of them "would not hurt." This, however, is far from being the case, as a bottleful of aconite 1x, nux vomica 1x, or glonoine 2x, might prove more harmful than many people may think. Besides, though the reduced dose is of the essence of homeopathic practice, there are plenty of remedies in the homeopathic *materia medica* which are usually given in rather large doses, as, for example, carduus, crategus, quebracum, etc. For the matter of that, there is no lack of homeopathic practitioners who do not at all mind prescribing ten-grain doses of bromide of potassium when, as in some rebellious cases of epilepsy, they find that they can do nothing better than adopt what they call the palliation of the bromides.

One thing should, undoubtedly, be placed to the credit of homeopathy, and that is that its small dosage has had a silent and unobtrusive, but none the less decided, influence on allopathic posology, and Trousseau himself, who certainly was no admirer of homeopathy, could not forbear remarking in the course of one of his Leçons Médicales, that allopathy could learn a great deal from it in the way of assisting, rather than doing violence to nature. At all events I, for one, unhesitatingly believe that homeopaths have right on their side when they say that the small doses advocated nowadays in allopathic text-books, like Ringer's and others, are another instance, not so much of unconscious, but rather of conscious, though unacknowledged homeopathy.

Be this, however, as it may, it should now be easy for us to understand that the principle of the reduced dose is a natural corollary of what we have seen in connection with the principle *similia similibus*. But, even apart from the fact that *similia similibus* would be meaningless without it, the reduced dose complies, on one side, with the old aphorism, *primum non nocere*, and on the other with the homeopathic precept that medicines should be administered in doses too small to cause any disturbance.

If we grant the correctness of *similia similibus*, it must necessarily follow that while a drug must be given in massive doses in order to produce what homeopaths call its primary action, and what we, to give it a more familiar name, might call its physiological action, it is evident that when the same drug is to be used medicinally, it should be given not only in smaller doses, but also in doses too small to produce what, in homeopathic language, goes under the name of "aggravation."

Thus, for instance, we will be able to understand what we read in Ringer's "Handbook" about nitrite of amyl. We are told that, whether administered by inhalation or by subcutaneous injection, this substance causes among other symptoms, flushing of the face, owing to peripheral arterial dilatation, and the dose required to produce the flushing may vary between five and ten drops by inhalation. But nitrite of amyl is also a good remedy for flushings of the face, especially in women at or near the menopause, and, therefore, the question is: What should be the dose of the remedy when employed to cure climacteric flushings? Shall we give five drops by inhalation? That would certainly aggravate, if it did nothing

worse. In one case Dr. Ringer found that one drop, given by the stomach, caused alarming symptoms, such as deadly pallor, giddiness and unconsciousness. Of course, he says, this was due to special susceptibility to the drug, but after repeated experiments he came to the conclusion that "for the most part these patients can bear one-third of a minim without disagreeable symptoms, but a tenth, nay, even a thirtieth of a minim, will, in some patients, counteract the flushings."

Here, then, we have not only one more illustration of *similia similibus*, inasmuch as the same drug which causes the flushings where they do not exist, cures them where they do exist, but we have also a practical demonstration of the value of the small dose when given for therapeutic purposes.

How are the reduced doses obtained? By trituration with sugar of milk for insoluble substances, such as phosphate of iron, of lime, etc., and by dilution of the tinctures in the case of vegetable or soluble substances. There is a decimal and a centesimal system of attenuations. In the decimal the first degree of attenuation, otherwise called potency, corresponds to our 1 in 10, and is marked 1x, the 2x means 1 in 100; 3x, 1 in 1000, and so on, each successive attenuation being equivalent to a further subdivision by ten. This is the oldest in use, and, undoubtedly, the best. The centesimal, in which the first potency corresponds to 1 in 100, further subdivisions being by 100, and which was introduced for the benefit of those who think that one in ten is too low to begin with, serves, in my opinion, no other purpose than that of suiting the fancies of high dilutionists.

The subject of attenuations has been another source of discord in homeopathic ranks, and there are the low, the medium and the high dilutionists. Among the latter the so-called high potentialization has already reached the serene and ethereal regions of the unconceivable, but the more conservative practitioners are quite content with the low and medium attenuations. But even these are far and above what an average allopath could reconcile himself to. What good, he would say, can the thousandth, the hundredth, or even the tenth of a grain or of a minum do? And it is for the benefit of those that I will draw, so to speak, a sketch from life of our own not very enviable position with regard to doses. It must do us good to see ourselves occasionally as others can not fail to see us; yes, even though the "others" were only homeopaths.

As recently as 1895, Dr. Dujardin Beaumetz, the well-known therapeutist of "l'hôpital Cochin," in Paris, not many days before his death, published an article in the *Bulletin Général de Thérapeutique* (Vol. 128, page 97) on the treatment of acute bronchitis, which struck me at the time, and much more so now, as very remarkable. The article begins with the following prefatory remarks: "To show how little progress medicine has made, many people maintain that we are quite unable to check a cold, even at its beginning, but that is a great mistake, as we possess a remedy with which we can surely abort a cold, and that remedy is aconite."

"Few remedies have been more discussed than aconite, and what puzzles us still more is the great fuss the homeopaths make about it. Until about twenty years ago we used to employ the tincture made from the leaves, and I do not know why it was mostly used in the surgical wards as an external application to guard against the first effects of purulent infection, while all the time English practitioners were incessantly praising its virtues in pulmonary congestion."

The article goes on relating how French doctors came to hear that their failures with aconite were due to the fact that their tinctures were made from the leaves, instead of from the root, and they were just going to shout eureka, when another danger loomed ahead, and that was that aconite is poisonous, and many people are so susceptible to its action that even feeble doses can produce fatal results.

Then, in its appalling simplicity, we read the following statement: "Every year, unfortunately, we have to record cases of death due to aconite or aconitine, with the additional unpleasant accompaniment of coronial inquests, so much so that Dr. Brouardel is reported to have said that he will never again have anything to do with those preparations. But that is going too far, and I will endeavor to show

that in the treatment of acute bronchitis aconite can be of much service, only it is necessary to be very careful in using it."

The article continues: "If we wish to succeed in aborting acute bronchitis with aconite we can only do so by giving it in large doses, and only to those patients who have taken it before without bad results." The large doses are from fifteen to twenty minims of the tincture twice in the twenty-four hours.

But there is still another inconvenience. In order that the treatment may be effective, it must be continued for at least eight days, and aconite has a decided influence on the nervous system, which shows itself in spasmodic contractions, especially in the arms. So that the treatment is only for adults, who must be known to have taken the medicine before without any disagreeable symptoms, and should not last more than eight days.

And this by the pen of a well-known French therapeutist, who had been in practice thirty-three years; who had first been sub-editor and afterwards editor of one of the best European medical journals for twenty-five years, who knew of the existence of homeopathy, but found no time to inquire and learn how the homeopaths managed to get such good results from aconite; and who, finally, still went on killing some people, and jeopardizing the lives of some others every year, simply because he had gotten it into his head that acute bronchitis was to be aborted by aconite, and that aconite could only be given in doses which he well knew to be dangerous. And yet, for scores of years before that article was published, homeopaths had been checking and curing colds in a few hours by thousands with doses of aconite not larger than the tenth of a drop, and pretty often as small as the hundredth of a drop. May God forgive us!

[Written for the MEDICAL BRIEF.]

Pneumonia and Typhoid Fever.

BY C. R. KING, M. D.,
Atlanta, Ga.

I am surprised when I read after the pen of some very learned medical men of Europe who write M. D., A. B., M. R., C. S., etc., almost all the letters of the alphabet after their names, when they tell us that in hundreds of test cases of pneumonia and typhoid fever since all the greatest physicians in all large hospitals after abandoning large doses of medicine found their patients did better. And when they left off entirely the minimum doses and gave only a little mucilage of acacia and water their patients' death rate was reduced.

The question with every successful physician in America who gives medicine for its specific indications as an emetic when we would unload the stomach, a cathartic when we would clear out the alimentary canal. Then for every indication of physiological disturbance denoting the diseased condition would, with our knowledge of medical therapeutics, give the specific remedy to relieve the disturbed equilibrium of the circulatory and electrical distributions, tranquilize all of nature's physical machinery, which then quietly cures the patient.

What were the large doses of medicine given their patients with the experience of such sad results in pneumonia and typhoid fever?

The great European physicians learn to abandon and reduce to the minimum doses, then what were the small doses that failed to satisfactorily reduce the death rate? And when all were left off and only emulsion of acacia mucilage and little water gave better results and reduced the death rate.

So medicine is pretty well abandoned and patients given acacia mucilage as placebo, "with the results of which the most eminent physicians in Europe were well pleased." How can it be in such serious physical disturbances, such fearful pathological conditions as exist in pneumonia and typhoid fever, that a little acacia emulsion given blindly without any scientific medical thought but just to please the patient, can excel the great medical skill (?) of some of the learned professors of Europe in reducing the death rate in such severe types of diseases as pneumonia and typhoid fever —without a true knowledge of the pathology of these two diseases (not simply the name of a few prominent symptoms) and a thorough knowledge of the therapeutic powers of the specifically indicated remedies? It were better to give placebo

and of emulsion of acacia and little water blindly without any thought except to please and take chances of not injuring the patient.

We find in all cases of pneumonia in its first stage congestion—for pneumonia in its first stage is nothing but congestion. Flint and all eminent authors teach us that (and to relieve it in this stage, and we never have it in the second and third, or suppurative stage,) it is congestion, congestion of the lungs; yes, congestion of the brain; yes, active congestion, and kills the patient in a few hours in the first attack unless circumstances help nature to relieve the shock, open up and restore to action the semi-paralyzed or constricted subdermal capillaries, which she does in many cases under favorable conditions, when the patient will slowly get well without any other help than a warm bed in a warm room and a little hot tea.

In cases of pneumonia, when called early, we find from cold wind or water to perhaps a perspiring surface produces a shock to the entire capillary system. Then what is the result but a stasis in the whole surface capillary circulatory system? With the impeded circulation we must have congestion somewhere in that system. Where? Think for one moment, my brother, where it is. Everywhere, you will say; yes, everywhere—then the lung trouble with pain in the chest, congestion of the lungs, the brain trouble with pain in the head, congestion with delirium, are only the consequence, the result of the capillary constriction, which if not relieved, will soon fill the lungs with blood and wear the heart out trying with all its over exertion to force (whilst every tissue is famishing for oxygen) the over-heated blood out through the constricted capillary system.

Now let us think for one moment what causes this, what force—whether abnormal or a natural force that produces this great trouble that so often ends in death—was that death caused by a disease called pneumonia? No, it is called "died of congestion of the lungs," "heart failure," when it occurs in a few hours or a day or two from the onset, or was it caused by an effort of nature to save the life?

Did you ever strangle at the dining table by one drop of fluid dropping into the larynx? Yes, and nearly die before the constriction of the muscles of the larynx would relax so that you could get in another breath. That constriction of the muscles of the larynx was not produced by the irritation of that drop of water but by the fright of the subconscious mind, which at once sent down an excess of electric fluid or force which overstimulated the laryngeal muscles (fearing more fluid would fill the air passages of the lungs), causing them to contract with such constriction as to shut off the breath for a few seconds, to almost produce asphyxiation. When the fear is gone the excessive nerve stimulation is gone and you slowly regain your shut-off breath. But if you were then in mid-ocean strangled by one drop of water in the larynx, surrounded by water on all sides, you would never get another breath, the frightened sub-conscious mind, spirit of Saul governing the citadel of our life, would never let up that constriction of the muscles of the larynx, and you would sink and rise a few times until the enclosed air in the lungs escapes; then you would go to the bottom without a drop of water in your lungs. This great power within that never sleeps hears everything and never forgets anything, the sub-conscious mind that runs the whole machinery of life while you are asleep or awake without a thought from you, when the one drop of water entered the larynx, was so frightened at the surrounding water that it shut out all opportunity to ever breathe again to keep out the water; so you would die by asphyxiation and not by the lungs being filled with water.

So with a stout man in fine health, at work shoveling snow, gets very warm, and when in a state of perspiration he finishes his job, starts home a mile away through the cold wind with all his pores open, with every surface capillary dilated, filled with blood rushing every two or three minutes from the heart and back to it. In the capillaries near the surface that blood chills, cold; it starts back into the heart; at once a note of warning as a shock is sent to the subconscious mind that chilled blood, ice cold, is pouring in from

the surface capillaries. If it continues it will kill all our life force in a few minutes; it must be stopped at once, and it is stopped as effectively as the larynx is closed when the drop of liquid enters it; an excessive amount of electricity is at once sent along the vasomotor nerves to save the life by constricting all the surface capillaries, closing them up, producing congestion and a blanched skin; the blood can not pass through. What is the result—lung trouble with congestion and breaking, rupturing of its capillary terminals or cells, and the cerebral troubles are only a consequence of this subdermal capillary constriction, and the innocent and inocuous diplococcus pneumoniæ has nothing to do with the conditions (pathological). It is all a result of nature's effort as in drowning; she drowns one in water without a drop of water in the lungs, she drowns the other out of water with lungs full of congested blood, committed suicide trying to save life. It is an innate power that acts quickly and powerfully without judgment or reasonableness, but will kindly yield to rational, reasonable assistance. For instance, you pull the strangling man from the water before he drowns; he will live; that power will relax the constricted larynx—so if you could take this man on his way home, as soon as he feels the cold chill or shock, as soon as his breathing begins to hurt him from the congested blood breaking up lung structure, then at once dip him all over into a barrel or hogshead of hot water, you would soon convince that monitor of life within that all was well, and every capillary warmed up would soon open and pulsate with new life-force after the reaction and the over-heated pent-up blood would sweep around its normal circuit every three minutes, and would by the help of that same innate power, *vis medicatrix naturæ*, that would have caused his death, now cure him in a few hours without a dose of medicine.

But we do not often get them at this stage, but later, for the natural tendency after first shock is to get over it and if patient can be taken at once into a warm room, put into a warm bed, you will find them much easier cured than to remain out in the cold too long.

So now what must be done at once? Open up the constricted capillaries as soon as possible and nature will cure your patient in a few hours. A little mucilage of gum arabic and water in three hundred such cases would end in over two hundred deaths, when under our specific eclectic medication not one, if taken in time, will ever die. First thing I do when called to such a case, I rub the chest, bowels and back from hips to armpits, over shoulders to the neck; all over with heavy coat of mustard, lard and quinine; no particular quantity, but plenty of each for stiff paste; cover with cotton batting up over the shoulders; bandage and sew it on to remain until the patient is well, then strip off a little cotton at a time to avoid taking cold. I never use mush poultice or ice to my patient's chest.

If patient is sitting up, not able to breathe, he should try to lie down. I put their feet half way to knees in tub of hot water and mustard. You must never wet the legs above the surface of the hot water; if you do, start on the surface, above the water, by evaporation—an ice machine will chill the skin, and instead of a benefit you will damage your patient. Patients sit still for a little while, when they can lie down. If badly constipated, give enema—teacupful epsom salts, one ounce glycerine and one pint warm water will soon empty the bowels. Use long rectal tube for high enema. I give from the start full doses of the specifically indicated remedies that will produce a slight paresis of the vasomotor nerves, thereby removing the constriction (every educated eclectic physician knows the indicated remedies), open wide the capillaries, then strengthen the heart a little; let the pent-up over-heated blood rush out through the entire subdermal capillaries; a clean sweep every three minutes around its normal circuit, cooling near the surface, returns like a refreshing breath of life to the suffocating patient, carrying oxygen to every famishing tissue. I never saw oxygen pumped into a pneumonia patient yet that lived. What good did it do? The blood not sweeping around its normal circuit could not carry it, and it always reminded me of trying to stuff a stomach full of food when there was no digestive

fluid, no power to digest it, or to prevent fermentation, putrefaction and damage instead of benefit; not that the oxygen, barring, perhaps, slight local irritation, did any material damage, but might as well have been applied outside the chest to benefit. I keep not the doors open to let in cold draft of fresh air, but shut them all close. Keep room warm and oxygen from fresh water boiling its steam into the air of that room, keeping it filled with home-made oxygen; soft and balmy all the time—even warm temperature; never allow a breath of cold air to patient; now supplying natural oxygen to every famishing tissue in that body. Now your almost exhausted patient can lie down and soon in a gentle perspiration will fall asleep; by return of blood to normal circulation all pains in head and side are gone, congestion of brain and lungs relieved, breathing is easier, circulation equalized, nervous system tranquilized, patient will sleep for several hours, wake up almost well, call for drink of water. We, by the specific effect of our eclectic medicinal treatment, opened up the constricted capillary throughout this whole system and nature cured our patient in six to twelve hours. Every eclectic physician knows that medicines do not cure. No physician by this system of treatment will ever lose a case of penumonia unless a feeble person, with advanced tuberculosis, because being educated in specific medical therapeutics and the pathology of diseases, eclectic physicians do no guesswork or practice to see how long the patient can stand a change of presciptions provided the one being given fails to kill or cure, that is "practicing medicine," and no doubt a little mucilage of gum arabic and water would kill fewer patients than guesswork treatment in such severe diseases as pneumonia, the very tendency of which is, after the first shock, to get well if the patient is well cared for at home.

In that terrible disease, typhoid fever, which is caused—no other cause—by the ptomaines or poison produced by the matured (not immature) germs of Eberth, a bacillus discovered by Eberth, a medical scientist, located in the glands of Bruner in submucous surface of duodenal portion of small intestines, and Peyer's patches later on in lower parts of small intestines—filling the whole system with their poison. The fever is result of nature's effort to eliminate this poison from the system as fast as it is produced to save the patient being killed by the poison produced by the typhoid bacillus.

While in the incubative state, or the prodromic period, I have so often, years ago, seen the victim go day after day for months, with pale, shrunken features, subnormal temperature, coated tongue, foul breath, constipated bowels, headache, often nose bleed—a man will work on, a child will continue at school, seldom playing with other children, until the fever sets in—result of poison produced in the system by the matured germ, which in their incubative state like the young wasp when good fish bait has no poison, but wait until they are grown and they will prove by their sting the poison they possess.

The fever has come to stay with a varying temperature, until the vitality of the patient is burned out or until the germs die out (three to eleven weeks), when it often requires that many months for patients to regain their former health.

Then to claim with any success towards reducing the death rate with little solution of gum arabic and water in such terrible diseases as typhoid fever with its five hundred thousand cases and fifty thousands deaths, costing the people of the United States about $120,000,000 in caring for the sick and burying the dead last year, to say nothing of the desolate homes and destitute orphans left by the awful work of death in our nation every year. How fallacious to come to us in America with such advice, from such a source, too.

While we in America by our specific eclectic medicine can sterilize the typhoid germs in the human system in three hours and by same treatment exterminate them from the system in seven to ten days when, without much loss of strength, our patient is soon ready for the battles of life. We need no reaction of the Widal test to prove typhoid fever here, for there is not an old woman on the Appalachian range of mountains in America who does not know by the objective symptoms when her child is taking typhoid fever before

she sends for the family physician. You say "It can not be done, it never has been done in Europe." It never can be done in Europe nor anywhere else by guess work. Every true eclectic knows in our test of specific medicines we get such results as we wish. That our remedies are non-toxic in specific doses, that they are antidote to germ poison and death to all toxic germ life and the living germ must perish quickly, all life, from the ameba to the elephant, must perish when the system is saturated with the true antidote. You can feed your chickens on nux vomica; they will thrive, but woe to the hawk that eats that chicken. We can poison fish with India berries and eat them with impunity; a goat can eat a square cut of plug tobacco and never nauseate him; hence it is useless trying to kill the goat with tobacco, but it kills the snake, cat and dog. So it is through all nature's laws, the true antidote or specific for the cause soon removes the trouble.

Many or all may differ with me; then I stand alone with all my claims proven facts.

And before I would write M. D. after my name and practice medicine on poor, sick, suffering human beings without the knowledge of the cause of the pathological disturbances (indicated clearly by the objective and subjective symptoms), and if I was not educated in medical therapeutics, teaching me the remedies specifically indicated alone or in proper combination to relieve the abnormal condition and restore healthy physical action in every organ in that diseased system, giving pleasure where there was pain in that body, and happiness where there was gloom and sorrow in that mind, I would rather be a "bobtail yaller dog and bay the moon." I would rather be a little "bow-legged nigger boot black" on our streets, giving a "patent leather shine for a nickel" than to come before the world in the very face of all specific medical science with the outrageous assertion that pneumonia and typhoid patients did better and fewer deaths on a little emulsion of gum arabic and water than on the specifically indicated medical treatment I could give them. Long live the MEDICAL BRIEF.

512 Austell Building.

[Written for the MEDICAL BRIEF.]

Medical Wonders and Medical Blunders—A Story of Facts.

BY M. J. RODERMUND, M. D.,
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(Continued from page 500.)

CHAPTER XIV.

YELLOW FEVER.

From what I said in the July number about yellow fever, there can be but one conclusion, that yellow fever is due to the relation existing between man and his environment. It is not caused by infection, nor mosquitoes, or germs, but is formed within the body from its own poisons. These physical laws and acts of the individual will result in health or disease in just the proportion as the body is kept in normal harmony with its environment. No such thing as disease, or disease germs exist in the air.

Ander's latest text-book on medicine states, "that yellow fever is a highly infectious (but non-contagious) endemic and epidemic disease." Mark the statement non-contagious. Why, in the name of Jehovah, do not these Medical Wonders tell the student and the public that for hundreds of years they were so, oh, so certain that yellow fever was the most contagious disease in existence. Now they quietly say, and so very quietly, that it is not contagious. This is all said in a manner apparently to leave the impression that it had never been considered a contagious disease. It is the old trick of fraud and deception, to cover up Medical Blunders.

If the great medical authorities have made such an unmitigated blunder in the past in regard to yellow fever, what is the matter with these assumptionists being mistaken in regard to small-pox, etc., being contagious? Have they any more proof of small-pox being contagious than they had of yellow fever? Have they even as much evidence to sustain their ignorance, and triple-plated cheek, and manufactured falsehoods about small-pox, diphtheria, scarlet fever and others, being contagious?

These medical purists tell us about the extreme passive congestion in yellow

fever. "That the blood is dark and many of the red corpuscles having disorganized, set free hemoglobin, as in malaria." Have these honored gentlemen ever told us why yellow fever patients have this very dark blood? No. They simply tell us what they find. Well, any old woman can do that. What causes these conditions is what we want to know. Then we will know the cause of yellow fever. This fact I explained in the previous chapter (July number).

I have said nothing in regard to the treatment of yellow fever for the reason that it would be useless to give the treatment unless the etiology is accepted as demonstrated. I can assure the reader that the treatment is surprisingly successful.

The general practitioner should not gulp down everything so-called authorities say, like a hungry hawk does a chick. Do some thinking for yourself, analyze, compare, and investigate these subjects. I will guarantee their correctness. It is easy. Then, when these darnphool mosquito chasers come to New Orleans this summer assert yourselves, make a laughing stock of these fellows by punching a hole into their gaseous pomposity, and see them collapse into a magnificent nothingness.

While penning these lines I received the following annonymous note from New Orleans, and it is too good to be ignored; it is the first time I ever found a Southerner to be too cowardly to sign his name. "Dear Doctor: I read your article in the MEDICAL BRIEF about 'yellow fever.' You are wrong, totally ignorant of the experiments which are today facts about the stegomyo. I would like to put you in a bed with a pair of infected mosquitoes, and I am sure that your person will lay in bed with the dreadful disease. Why is it that never the whole city is infected, but goes by districts, sometimes jumping over twenty blocks? You are a Northerner, and you are an ignoramus on this subject. Please shut up and do not make a dam fool of yourself."

If the writer had signed his name I could accept his challenge by personal letter. Will say, however, that I will accept such a challenge from him or any man, and if I am not right as to the cause of yellow fever I will give bonds to pay him one hundred dollars per day for his time, besides the costs. But if I am right he is to pay me the same and costs. Now put up or be publicly branded as a coward and a bluffer. The money consideration is only to protect myself from fakirs and notoriety-seekers.

CHANCE IS UNKNOWN IN THE OPERATIONS OF NATURE.

Things sometimes appear on the surface as being haphazard and chance, but in reality there lies underneath a perfect governing law. We have, in the past, been too prone to accept the brazen nonsense of preachers and authorities that we are here upon this earth to take our chances according to the wishes of the "Lord," or to the wishes of these now popular germs.

Lightning will strike certain homes and certain places, while other houses it never strikes. There must be a reason for these certainties. Large and high buildings, made of steel and iron, are not usually touched by lightning, but the small wooden buildings are in danger because a wooden building is a poor conductor of electricity, and thus becomes charged, and when the charge between the earth and the clouds becomes so great that the air can not resist any longer, the conditions for lightning are ready, and the overcharged wooden house flies to pieces.

We seem to be perfectly helpless when heaven's artillery is blazing away about our house, but the fact is we are not helpless, for the danger of lightning can be controlled just as readily by intellect and knowledge as we now control energy and matter in many other ways. In certain territories thunder and lightning are unknown; in others it is terrific, and many people consider this all accident, others consider them divine visitations, but before lightning can strike there must first be prepared the proper conditions, both in the cloud and in the thing struck.

Another illustration is the fact that in a large city the fire department may not be called to a chimney fire for months and more, but all of a sudden certain atmospheric conditions arise, of which everyone is familiar, and the fire department is kept busy putting out chimney fires; sometimes as many as twenty to fifty per day.

In other words, we have an epidemic of chimney fires. We say this is due to certain high winds, but lose sight of the fact that the chimney must first be in a proper condition before the fire can occur.

Would the reader say that all of these chimney fires were due to contagion, and that one caught it from the other? Certainly not. No thinking man would dispute the fact that the condition must first be favorable in the chimney before the existing atmospheric conditions will set it on fire. Get this one thought indelibly fixed, because an epidemic of yellow fever is governed by identically the same law.

As we must keep our chimneys clean and make our houses better conductors of electricity, so must intellect and knowledge keep the human house in condition in order that the atmospheric artillery will not check the functions of the body sufficiently to produce yellow fever, small-pox, etc.

Just as certain houses escape the ravages of lightning, and certain chimneys remain untouched by fire, will certain classes of people escape the disease during an epidemic; while another class, no matter how careful they are, or how much they vaccipate, or how much they pray to the "Lord," or how much they fight the germs and mosquitoes, are as sure to come down with the disease as that lightning will strike certain places and leave others unharmed.

Why do trains escape the lightning? This is not chance. These well-known facts are governed by an absolute law. They can be controlled by man, as we control electricity. It only requires a little knowledge and intelligent management on the part of each individual to prevent coming down with any of the so-called contagious diseases. No doubt, that in the future, as in the past, people will still be afflicted with yellow fever and small-pox, as mankind is not likely to adapt themselves perfectly at all times with their environment so as to avoid disease.

The strong point I am contending for is that no individual need get frightened, or whole cities or States go into a panic because one or more have violated the laws of their being. But when mankind will once learn how to keep the human house clean, and how to resist the atmospheric conditions, epidemics of any kind will be a thing of the past. But the reader may ask, Doctor, tell us how to do this? I shall before I get through with my story. I shall endeavor to make it so plain and simple that almost any ten-year-old child can grasp it. The fact is, all we have to contend with, outside of the action of the air itself, is what I have styled "the big four," eating, sleeping, working and breathing. To properly handle this big four, in harmony with our environment, is all there is to it. In the meantime, just think it over. This means that all this rotten slop that the leaders of the medical profession have mixed with these natural principles, must be eliminated, such as bugology, vaccination, fumigation, quarantine, mosquito theory and contagion. When this is done there will be very little left but the commonsense principles that were actually stolen from the commonsense of the common people, viz., to keep our surroundings clean. To this must be added the knowledge to judiciously manage this big four.

I have in my story, so far, withheld my experiences, experiments and investigations, simply confining myself to the statement of facts thereby proven. Much could be written along this line which, if once put in public print, it would make "Frenzied Finance" appear like a molten candle compared with the exposition of frenzied medicine. Any physician with foresight enough to grasp the conditions as they are, does not wonder any longer why more than half of the legitimate business now goes to the conglomeration of fakirs that have sprung up in late years, all because of our blundering stupidity and ethical fakirism.

CHAPTER XV.

SMALL-POX.

I believe I can write the most interesting facts and experiences about small-pox of any other man. But, at present, I am only interested in the essential natural principles or laws that govern epidemics. The best illustration I know of to explain how diseases are formed, is as follows: Take the three colors, red, white and blue, mix them up in different proportions, and we can make dozens of different shades.

Just so, are diseases, only different shades formed from the several poisons or waste products of the system, when combined in different proportions. These different shades of disease are due to environment —our own acts—and our differences in natural make-up, such as temperaments, constitutions, and age.

I wish to indelibly fix in your mind this one thought, that all epidemic diseases are governed by one and the same natural laws. I admit that on the surface it appears as though the spread of epidemics were largely chance and accident, but there is no haphazard and chance in nature. However, all of her laws relating to the cause of epidemic diseases are subject to control, and require only intelligent management to render them perfectly harmless. This knowledge is important. It is what I believe the physician and the public need and want. Medical purists have overlooked the essential feature in nature's phenomena. When certain conditions, both of the atmosphere itself and in the human house are prepared, disease is certain. The same law holds good in case of lightning—both the house and the conditions of the atmosphere must be in the proper state to do any damage.

The latest authorities upon small-pox are amusing reading. Each statement is qualified, "that it is probably this or probably that," but all agree that it is the most contagious disease with which we are acquainted, and that it is contagious from the earliest stage up to convalescence. But, up to a few years ago, yellow fever was considered by far the most contagious disease existing, and now it is pronounced non-contagious, and small-pox put at the head. Well, perhaps the American people like a change.

Small-pox epidemics are almost as easy to predict as is a great storm. Small-pox usually starts in the east and travels westward. Who ever heard of small-pox starting in the west and traveling eastward? Before an epidemic comes on we find a season prevailing in eastern winds that are changeable, raw, and damp, accompanied by cloudy weather, at times stagnant, with very little sunlight or thunder and lightning. I have myself, in several instances, predicted an epidemic of small-pox two and three months in advance. In one instance I made the prediction in the beginning of September, that if the then prevailing conditions of the weather would continue during the fall we would hear of small-pox spreading throughout the country before Christmas, and if the changeable and atmospheric conditions kept on through the winter that the epidemic would increase in its severity. The records stand verified. Again, we know that if we have a steady cold winter there is little, if any, small-pox. But when the weather is changeable and damp, with east winds and low pressure, which prevents the affluvia and impurities from rising, and very little sunlight, we always have the disease with us.

The medical giants are uncertain as to how or where the first case of small-pox originates, but say, "probably from the systemic poisons." They do not tell us how it is possible for small-pox to be transmitted from one person to another by contagion, but they say it spreads and keeps spreading, and that this is evidence enough. Nor do they tell us why it finally disappears.

Their own words condemn them, and is admission that it is all based upon assumption and belief. Yet these giants are ever ready to ignore, hound, and persecute the man, as it best suits their purpose, who can prove and demonstrate that their assumptions and beliefs are wrong. Is this just to the honest practitioner who thinks and investigates? Is it just to the public? Is it progress in medicine, or is it a frozen conscience and want of mental calliber to grasp a simple natural and eternal truth.

Small-pox, like yellow fever, is due to the conditions of the atmosphere, and to our own actions. The difference being that the predominant action of the air in yellow fever is upon the blood through the lungs, while in small-pox the predominant action is upon the surface of the body. It is a well-known fact to neurologists that the surface of the body or skin is extremely sensitive in its environment through the peripheral nervous system. This is all admitted in various other conditions, such as those diseases which are due to what is termed a cold. The rheumatic tells us his body is a walking bar-

ometer. If there were no other evidence to draw from, this alone ought to be sufficient to show that epidemic diseases are due to the same laws and principles that obtain in health, differing in degree only. Nature has only one method of doing things. Therefore, the same law must prevail during an epidemic as in health, differing in degree only. This is strong medicine for the bugologists to swallow, but I have not said anything about the germ theory in my story because the subject is not worth wasting paper and ink upon. It is like wasting lather to shave an ass. If the germ theory was true there would be no more "science." The condition must exist first before life can develop. This sentence is all that is necessary to make our germ theorist the laughing stock of all future generations.

To get back to small-pox: Why is it that in dry and windy climates it is rare to have an epidemic of small-pox? Why is it that small-pox attacks the strong and healthy, and not the frail and delicate? Why does it attack certain temperaments and others rarely? Why does it, with few exceptions, attack the laboring man and the young people? Why does it attack the overfed and the dissipator? Why does the temperature go down as the eruption comes out? Why did it not kill the patient before it came to the surface? This is not chance or accident. It is governed by an absolute law.

The reason that the above classes are first attacked with small-pox is because, from the very nature of things, their system produces larger quantities of those waste products which are eliminated through the skin. This important law I will discuss when I come to speak of scarlet fever. It explains why scarlet fever is generally found among the young, and a very rare occurrence in adults. By observing one can easily see that in those whose human machinery is kept up to full speed, there will, sooner or later, be an excessive accumulation of waste products, and when unfavorable conditions arise which have a tendency by their action upon the skin and peripheral nervous system to prevent normal elimination, such persons are the first to come down with small-pox. This simple problem ought to be as plain as the nose on a man's face, why small-pox spreads, and why it stops spreading as soon as the unfavorable atmospheric conditions disappear.

Does it not bring you back to my oft-repeated statement that education of the public in the simple principles laid down is the only remedy to prevent epidemics? Does it not clearly outline the duty of the human fire department (health department) to educate the public how to keep the flues and chimneys of their human house clean, and thus prevent it from getting on fire, or, perhaps, entirely burn down, which means death. Therefore, I wish to again strongly emphasize the fact that in order to make this knowledge a part of ourselves, and be competent to use it in everyday life, and be able to see at a glance how to adapt ourselves to favorable and unfavorable environments or atmospheric conditions, this knowledge should be taught in a plain and simple manner, and like the A, B, Cs, should be one of the child's principal studies during the school curriculum.

We must not lose sight of the fact that we are as intimately related and joined with the atmosphere as are the organs of the body joined and correlated to each other, and that no person is going to take small-pox by chance or accident. By this I mean that if one person should meet another on the street who has small-pox, or who has come in contact with a person who has it, be he layman or physician, he runs no risk whatever of taking the disease. In other words, to take small-pox by contagion is an utter impossibility. The contagion fallacy is a blaspheme and insult upon the all-wise Creator, in that he should have created in his wisdom any condition whereby one person who had violated his laws could be the source of spreading an epidemic throughout a city, state or nation, causing intense suffering, and the lives of a large number of people, is a fallacy to which the whole medical profession should bow in shame. It is opposed to all laws of nature. It is an insult to the wisdom of the Creator. It is opposed to all common sense, and it is high time that the honest and thinking physician should become independent enough to stop nuckling down to such tomphoolery.

I never found a person who has had much to do with small-pox who was afraid of it. This fearlessness is mostly among the middle or laboring class, as so many instances spring up among them where necessity compels them to eat and sleep with the small-pox patient, lay them out and prepare them for burial, but still do not take the disease.

The greatest carelessness in handling the truth I have ever met with are those compiling statistics about small-pox. I can only speak from experience here in Wisconsin, but those who have investigated other States have found some statistics even more rotten. Statistics prove nothing unless based upon the principle of all things equal. Hence, the medical profession have no statistics that are worth the paper they are written upon. They only are good to pull the wool over the eyes of the public, and the general practitioner. I have known instances where the whole family were vaccinated successfully and took the small-pox a few weeks afterwards; also, where part of the family were vaccinated and those who were vaccinated came down with small-pox and the others not. But the reports would be made out by the "death board" that none were vaccinated. It is this designed carelessness of handling the truth that has kept vaccination up. I have never yet met a provaccinationist but who when cornered would admit he did not believe in it, but that it was popular and that there was money in it, and anything that kept the public in terror was a good thing.

328-330 Harmin Street.

(To be continued.)

State Board of Medical Examiners Enjoined from Arbitrarily Revoking a Physician's License.

A very important decision, involving the right of a State Board of Medical Examiners to arbitrarily annul the certificate of a licensed physician, and prevent him from practicing his profession, was handed down by Judge A. H. McVey, in the District Court of Iowa, for Polk County, on June 8, 1906.

The plaintiff in the case was Dr. W. H. Smith, who is Health Physician of Shell Rock, Iowa, and he appealed to the Court for a permanent injunction restraining the board from disbarring him and cancelling his certificate. The Court granted the plaintiff's petition, and delivered the following very able opinion. As the facts are all stated by the Court it is unnecessary for us to state them here, therefore, we present the opinion herewith without further comment:

OPINION OF JUDGE MCVEY.

IN THE DISTRICT COURT OF THE STATE OF IOWA IN AND FOR POLK COUNTY.

W. H. SMITH,

vs.

STATE BOARD OF MEDICAL EXAMINERS, *et al.*,

No. 13826 Equity. Opinion.

STATEMENT OF FACTS.

The plaintiff is a resident of the State of Iowa, and has been a practicing physician in this State for twenty-seven years. He holds a diploma from the medical department of Northwestern University, Chicago, Illinois, and also a certificate to practice medicine issued by the State Board of Medical Examiners of the State of Iowa.

On the sixteenth day of June, 1905, the State Board of Medical Examiners caused to be prepared an information, entitled State of Iowa against W. H. Smith, alleging that the plaintiff is not a fit and competent person to practice medicine, specifying six reasons therefor, to-wit: That he has failed to recognize certain diseases and report the same for quarantine, there being no specifications as to the time or place or person. The petition further alleges that the Board is about to proceed to hear and determine said information, and unless restrained, would proceed to annul the certificate of the plaintiff, and prevent him from continuing the practice of medicine within the State of Iowa.

THE QUESTION PRESENTED.

The application for an injunction is based upon the proposition that Section 2578 of the Code of Iowa is unconstitutional. The Section is as follows: "The Board of Medical Examiners may refuse to grant a certificate to any person otherwise qualified, who is not of good moral character, and for like cause or for incompetency, of habitual intoxication, or upon satisfactory evidence by affidavit or otherwise, that a certificate had been granted upon false and fraudulent statements as to graduation or length of practice, may revoke a certificate by an affirmative vote of at least five members of the Board, which number shall in-

clude one or more members of the different schools of medicine represented in said Board; nor shall the standing of a legally chartered medical college, from which a diploma may be presented, be questioned, save by a like vote. After the revocation of a certificate, the holder thereof shall not practice medicine, surgery, or obstetrics in the State.

There is no claim that the legislature is without power to enact a law providing for the revocation of certificates to practice medicine. The alleged unconstitutionality of the statute in question is based upon, first, that the statute fails to provide that the person whose certificate is sought to be annulled shall have notice of the time and place of hearing upon the charges against him. Second, that there is no provision in the statute requiring a hearing upon the truth or falsity of the charges, and that there is no restraint in the statute against the Board exercising arbitrary and summary power in revoking a physician's certificate. Third, that there is no appeal from the decision of the Board provided for.

The question then resolves itself simply into this, that while it is admitted that the legislature had the power to repose in the Board of Medical Examiners the right to annul a physician's certificate, yet the legislature having failed in the statute to provide for a notice, trial or appeal, that such statute is in violation of the constitution of the United States, which provides that no person shall be deprived of life, liberty or property, without due process of law.

In Mulligan vs. Smith, 59 Cal., 206. it was said: "This guarantee is not confined to judicial proceedings, but extends to every case in which a citizen may be deprived of life, liberty or property, whether the proceedings be judicial, administrative or executive, in its nature." It has also been held in numerous cases that the provision operates as a restriction on every branch of civil government. See Chicago Railway Company vs. Chicago, 166 U. S., 226; Holden vs. Hardy, 169 U. S., 366; Murry vs. Hoboken Land Co., 18, Howard, 272.

In the case of Chicago, etc., Ry. Co., vs. Chicago, 166 U. S., 226, it was said that the provision refers to all the instrumentalities of the State, to its legislative, executive and judicial authorities.

It has been said due process of law means that it secures to every person the right to have notice of any proceeding by which his right of life, liberty or property may be affected, and be afforded an opportunity to defend, protect and enforce such rights in an orderly proceeding adapted to the nature of the case.

See Vol. 10, American & Eng. Enc. of Law, 296.

In the slaughter house cases reported in 16 Wallace, 36, the Supreme Court of the United States said: "For the preservation, exercise and enjoyment of such rights, the individual citizen, as a necessity, must be left free to adopt such calling, profession or trade as may seem to him most conducive to his welfare. The right to choose one's calling is an essential part of that liberty which it is the object of the government to protect; and a calling, when chosen, is a man's property and right, and liberty and property are not protected if those rights are arbitrarily assailed."

The Supreme Court of Iowa, in State vs. Bair, 112 Iowa, 466, said that any citizen has the undoubted right to follow any calling, business or profession, he may select, subject only to such restrictions as the government may impose for the welfare and safety of society. This right is one of the distinguishing features of republican institutions.

In the case of People vs. McCoy, 125 Ill., 289, the Supreme Court of Illinois said, that whether the right to practice medicine is property in the technical sense, it is a valuable franchise or right, and one of which a person ought not to be deprived without being afforded an opportunity by timely notice to defend it.

In Barr vs. Essex Trades Council, 30 Atlantic, 881, it is said that the business of publishing a newspaper with the incidents of its circulation, and advertising, was as much property as the type and presses upon which the paper was printed.

In O'Mara vs. Stack, 90 Pa., 447, it was said that a man's profession is his property.

In view of these and many other authorities which might be cited, the conclusion is irresistible that the right to practice medicine by one who has been duly licensed therefor, is a right, liberty and property recognized by the constitution, and any infringement upon this right, liberty or property without due process of law would be unconstitutional, null and void.

It therefore remains to be seen whether or not the trial by which this right, liberty and property was about to be determined was proceeding with due process of law. The statute does not require any notice to be given to the party whose certificate is about to be revoked. It does not require that any legal evidence shall be submitted, but leaves the members of the Board to proceed arbitrarily, or in such manner as they may see fit. There is no appeal provided for in the statute. In the case at bar, however, notice was given to the plaintiff and an opportunity to be heard was afforded. In the case of Beebe against MaGoun, 122

Ia., 94, the Supreme Court of Iowa said: "It is not enough, as was said by the Court of Appeals, in Stuart vs. Palmer, 74 N. Y., 183, that the owners' chance to have notice or that they may, as a matter of favor, have a hearing. The law must require notice to them, and give them the right to a hearing, and the opportunity of being heard."

In Auer vs. City of Dubuque, 65 Iowa, 650, it is said: It is not enough that the owners chance to have notice or that they may as a matter of favor have a hearing. The law must require notice to them, and give them the right to a hearing, and the opportunity of being heard. Indeed, it is the general rule, supported by very numerous authorities that where notice and trial or appeal is requisite to the constitutionality of a statute which fails to embrace such provisions, that the proceedings are not cured or the constitutionality supplemented or made good by the voluntary notice and trial by the tribunal constituted by the statute.

In other words, where a statute reposes in a Board or Court the right to dispose of the rights, liberty or property of a citizen, fails to provide for a constitutional trial, the attempt of such Board to give the defendant a trial does not render the proceedings valid or the statute constitutional.

We have therefore found first, that the rights of the plaintiff are such as are protected by the constitution. Second, that the fact that the Board of Medical Examiners gave notice and the opportunity to be heard does not remedy the constitutional defect. It is however said upon the part of the Board that the Supreme Court of Iowa has upheld the right of the Board to determine whether or not a medical school is in good standing, and that the Supreme Court has upheld also the right of the Board to refuse a certificate to an applicant to practice medicine. These however are, it will be observed, cases in which the plaintiff sought a right. In the case at bar, the right has already been granted and conferred, and the question was before the Board, whether or not the right already conferred should now be revoked, presenting in the judgment of the Court quite a different question.

In the case of Traer vs. State Board of Medical Examiners, 106 Iowa, 563, the Court, in discussing the question of notice of the time and place of hearing, in the proceeding before the Board for revocation of certificate, held that the Board had a right to revoke a certificate upon trial, but in that case the constitutionality of the statute was not raised and consequently the question which we now have before us was not ruled. Many cases are cited by counsel for the Board to the effect that the legislature has power to confer upon the Board the right to revoke a certificate. This question is not now in issue. It is conceded upon the part of the plaintiff that the legislature has the power to confer upon the Board the right to revoke a certificate to practice medicine once granted. The sole questions is what is the effect of the failure of the statute to prescribe a constitutional hearing, and an appeal as a prerequisite to the exercise of such power.

In the case of the People vs. McCoy, 125 Illinois, 289, it was said: A certificate to practice can not be revoked by the Board without the service of notice upon the defendant, fixing the time and place of hearing, and upon investigation by the Board, in case where it had jurisdiction. Most of the cases cited from many of the States by counsel for the Board, in which the power to revoke a certificate has been upheld, provide that there shall either be notice or a trial or an appeal from the judgment of the Board.

I am clearly of the opinion upon the whole case under the authorities that the right to practice medicine once having been conferred and exercised for a number of years by a physician, is not only a right, but is the exercise of a liberty which amounts to property, and that the holder of such certificate can not be deprived of his right to practice medicine without due process of law. I am further of the opinion that a statute which confers upon the Board or Court the power to revoke a certificate to practice medicine without at the same time providing that the hearing shall be upon due notice, and upon the submission of legal evidence, is void and unconstitutional, unless there is a provision for an appeal to a higher tribunal, and that the statutes of Iowa, which conferred upon the Board of Medical Examiners of the State of Iowa the power to revoke a certificate is void for failure to provide the necessary constitutional trial; that the legislature has power to pass a statute reposing such power in the Board upon a constitutional trial there can be no question, but having failed so to do the statute can not stand. The case at bar exemplifies the necessity for a constitutional trial. The plaintiff being a graduate of a reputable school, holding a certificate to practice, and having practiced medicine for twenty-seven years, his certificate is about to be revoked, upon motion of the Board itself, information was presented by the Board itself in terms as follows: That he fails and has failed to recognize scarlet fever, and fails and has failed to designate it as such, and to report cases of the same for quarantine. The demurrer to this information by the plaintiff was overruled, the motion to make more specific

was overruled, and plaintiff was placed upon trial without having been advised as to the instance in which he failed to recognize scarlet fever, or the person afflicted, but was left to grope over twenty-seven years of practice to find out wherein he had failed to recognize the disease. True, in the case at bar, the Board did adjourn the case after the Board's evidence was in for the purpose of enabling the accused to meet the charges. But it is not what the Board actually did, but it is what they may be under the statute which is the serious question. Under the statute the Board might have proceeded with this upon the information filed, and have adjudged summarily that the plaintiff was incompetent to practice medicine, and his rights would have been forever foreclosed, because no appeal is provided in the statute, a condition of the law which is repugnant to the genius of our institutions, and exposes the citizen to the charge of being deprived of liberty and property without due process of law.

THE REMEDY.

It is claimed that injunction is not the proper remedy. It is not perceived, however, that if the Board is permitted to enforce the law which we have held to be unconstitutional, that the plaintiff will have a speedy and adequate remedy at law. If, as we have found, the plaintiff is invested with the constitutional right to practice medicine in the State of Iowa, which right is protected by the fundamental law, and if the defendant Board is about to deprive this plaintiff of such right, it must follow that the plaintiff would be deprived of his livelihood, and the exercise of his constitutional rights, and that the Board could not be held to respond in damages, and, therefore, it is not perceived that he has a speedy and adequate remedy at law, but in fact no other remedy that seems to be open to him, except to enjoin the alleged unconstitutional act.

But it is alleged that the statute is in its nature a criminal one in that it provides a penalty for attempting to practice medicine upon the part of one who had no certificate or whose certificate has been revoked, but as we have already seen, the act itself being unconstitutional, its provisions would not apply to the plaintiff; however, as was said in the case of Austin against Austin City Cemetery Association, by the Supreme Court of Texas, 47th State Reports, 114, it can not be tolerated that a municipal corporation in view of these principles should escape the grasp of a Court of Chancery by the device of adding a penalty to an illegal and void ordinance, and where a court of law can afford no remedy adequate for the prevention of irreparable injury that would probably result from the enforcement of such an ordinance. The mere fact that an act is criminal does not divest the jurisdiction of equity to prevent it by injunction if it be a violation of property rights and the party agreed has no adequate remedy for the prevention of irreparable injury, which will result from the failure or inability of a court of law to redress such rights. See also Port of Mobile vs Railroad Company, 5 American Reports, 342; Mayor of Baltimore vs. Redecke, 33 American Reports, 239; Davis, *et al.*, vs. Fasig, 27 N. E., 727, in which last case it was said that it would not now be a prompt or efficient administration of justice to allow the city in the exercise of unconstitutional ordinance to stop him and leave him to sue at law for compensatory damages. But as we have already seen, the Board can not be held to respond in damages in an action at law. The main contention in the case at bar is that the complainant is seeking to protect property and individual rights, and under such circumstances a Court of Chancery will interfere.

See Central Trust Company vs. Citizens' Street Ry. Co., 80 Fed., 218. See also Price vs. Baldauf, 82 Iowa, 670.

I am therefore of the opinion that the act is unconstitutional, that the plaintiff has no speedy and adequate remedy at law, and that the injunction should be issued and be made perpetual.

I am greatly indebted to counsel for both plaintiff and defendant for very able and exhaustive arguments and citation of authorities. Ordered that this opinion be filed in the case and made a part of the record therein.

(Signed) A. H. McVEY,
Judge.

STATE OF IOWA, }
POLK COUNTY. } ss.

I, B. F. COFFIN, Clerk of the District Court, within and for the County and State aforesaid, do hereby certify the foregoing to be a full, correct and complete copy of Opinion of Court in the case of W. H. Smith *vs.* State Board of Medical Examiners, et. al., No. 13826 Equity. .....
.....
as full, true, correct and complete, as the same remains in my office.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed the seal of said District Court this 8th day of June, 1906.

(Signed) B. F. COFFIN,
Clerk of Said Court.

(SEAL)

(Signed) By CALVIN WEEKS,
Deputy.

[Written for the MEDICAL BRIEF.]

The Origin and Progress of a Single Thought.

BY G. H. MORGAN, M. D.,
Knoxville, Tenn.

Far away, upon the backgrounds of the mental field of the human mind, so remotely far that a finite grasp is utterly unable to conceive so much as that of finite space.

Rising, as it were, out of a sea of glass, or from an ocean of eternity, that minute and infinite cause which moves rapidly and independently to all others, and to a perfect intent; burning its way and accomplishing its purpose to a full and definite end. Though remotely far away upon the misty grounds of the mental sphere, yet it is the first great and grand cause, which electrifies the first ray of effect, and hurls it across the great mental vault with unequaled rapidity.

Causes, producing effects, and effects resolving themselves into causes, and multiplying their results and forces infinitely, until a sleeping faculty amid the mental field has been awakened, and there has been conceived and generated an inclination to desire a will, to desire a dominating desire, to will a superior desire, to will a will, to be willing to will, that all the faculties be willing unanimously, to agree to an agreement, to formulate and give birth to a single thought, a thought which has, heretofore, remained unconceived, begotten or formulated and stamped upon the blank mental field.

The finite mind is as totally ignorant of the first and prime cause of the origin of a thought as it is of the origin of God.

A thought is adjusted and cast forth alone, by an Omnipotent Hand. Its origin and destination is celestial and eternal, and when once begotten, formulated, and printed upon the mental field, it can never die, be erased, or forgotten. It is as indestructible as material, or the soul with which it blends, and will remain untarnished amid the crash of the universe. Those facts are clearly proven by the many individual incidences in which circumstances are favorable for the recalling of passed thoughts, or events. Children when placed under those favorable conditions, mentally have been known to repeat long conversations, which had occurred only in their early infancy.

An ignorant servant, who heard her master read Greek, while she brushed up his office, in years afterwards, while she occupied a peculiar mental condition, was heard repeating the same identical lesson and translating it into English, just as she had heard her master.

Drowning men have stated that their entire lives, even to their most remote thoughts, were hurled before them accurately, and as rapidly as a moving picture, all in a moment of time.

Thoughts which have remained dormant, or seemed to have been forgotten for many years, very frequently show themselves under peculiar circumstances in the way of dreams.

Psychologically speaking, there is sufficient evidence to convince us that the most remote and insignificant thought is neither forgotten or eradicated from the mental orb, but all are formed into one magnificent and everlasting chain, never to be severed or broken on earth, or in heaven.

The poet wisely and beautifully expresses this truth, when he said:

"Lulled in the countless chambers of the brain
Our thoughts are linked by many a hidden chain.
Awake but one, and lo! what myraids rise;
Each stamps its image as the other flies."

No man is greater or less than his thoughts. As a man thinks, so he is. The greatest force or power with which a man is endowed is his recalling force, and when placed favorably, mentally, that power is unlimited, and, for aught we know, is fully realized, only after the act of death.

311 North Gay Street.

My wife has been reprimanding me for several days; says that I have the blues; could not for my life tell why. I set to work to find the cause, and forthwith discovered that we had no BRIEF. So please send me the remedy, the MEDICAL BRIEF, and here is the dollar to pay for the best medical journal in the world. It is food for my soul, and a safe guide for everybody. I hope that you and our BRIEF may live always to brighten the pathway of the lives of the medical fraternity.—U. H. SHINE, M. D., Hortense, Tex.

[Written for the MEDICAL BRIEF.]

Malnutrition as a Means Furnishing the Soil for the Disease Tuberculosis—Fat Foods in Its Prevention and Cure—as Pointed Out by the History and Literature of Tuberculosis of all Centuries.

BY THOMAS BASSETT KEYES, M. D.,
Chicago, Ill.

INTRODUCTION.

Tuberculosis is and always has been a subject of much scientific discussion because, as indicated by ancient literature, it has been the most prevalent disease of mankind, and while the human race has clamored loud and long against it, it would seem that little effectual good has come in the prevention of the disease. And why? Because while the literature of all centuries has indicated and pointed to the fact that the disease was one primarily of malnutrition, and that superabundant nutrition has proved most valuable in its treatment, these facts have not been as forcibly impressed in a practicable way as they should be; their principles of application have not been thoroughly understood or studied out. Tuberculosis can be prevented by building up the defensive powers of the system with a proper diet; then the germ can not produce the disease. In the "Twentieth Century Practice of Medicine," a modern text-book, the statement is made that the germ will not grow in the healthy individual, even though breathed into the lungs.

The Index Catalogue of the Library of the Surgeon General's office, U. S. A., Vol. XI., 1890, under the head of "Phthisis," contains seventy-nine pages, giving the titles of works upon this subject, among them being about one thousand five hundred and eighty articles (estimated) in the English language, while in Vol.XIV, of 1893, under the classification of tuberculosis, which is a distinct classification from the former, we find fifty-five pages of titles, including about one thousand one hundred essays in the English language on tuberculosis. This is the last classification of the Surgeon General's catalogue, but taking the "Index Medicus" from that date, we find in the English language, by actual count, during the year 1894, under the classification of phthisis, eighty-eight essays, and under tuberculosis eighty-four. In the year 1895, under phthisis, twenty-seven; under tuberculosis, twenty-four; in the year 1896, under phthisis, fifty-six; under tuberculosis, ninety-six; in 1897, under phthisis, one hundred and thirty-eight; under tuberculosis, one hundred and thirty; in 1898, under phthisis, ninety-four; under tuberculosis one hundred and forty-one; in 1899, under phthisis, one hundred and fifty-eight; under tuberculosis, one hundred and eighty-seven. Thus up to the year 1900, there appeared in the English language more than three thousand nine hundred articles upon the subject. As the "Index Medicus" is no longer issued, we will turn to the "Medical Review of Reviews," and we find there up to date about two thousand two hundred leading articles indexed under the headings of consumption, phthisis, and tuberculosis, estimating that among them are at least nine hundred in the English language. Most of the articles above referred to are contained in the Newberry Library of Chicago, it being the second largest medical library in the United States, and in my endeavors to find all that has been written on the practical treatment and cure of this disease, I have during the past ten years read all of the articles on the subject, both special books and those found in various journals. This article, however, is not to take up the practical drug treatment of tuberculosis, though it would be unjust to that vast army of writers to say that there had not in all these writings been suggested many practical treatments, the knowledge of which in the management of this disease, will at the proper time often prove useful. But if such treatments are not given with judgment which comes from experience in the treatment of many tubercular cases, such drug treatment will often be harmful rather than beneficial, or without effect, owing to its being improperly carried out, from a lack of understanding

of the treatment, or of the disease, and of what can and should be accomplished under varying circumstances. It would necessarily be inferred that in the taking of notes on the practical treatment of this disease from the English literature of all the centuries that much practical knowledge should be gained, and in a future issue of this journal I shall try to classify and arrange the practical drug treatment of the disease, but in this paper it will be my endeavor to unravel the thread upon which the whole woof and superstructure of the literature has been founded, and that is that the disease from earliest antiquity to the present date has always been looked upon by many as one primarily of malnutrition, and that supernutrition has formed the basis and most important point in its cure, and that nutrition in the form of fats and oils.

As journal articles are often special, to prove the point that malnutrition is the first and most important factor, we would gain much by referring to such special articles, but that is not the purpose of this paper, and I shall refer only to the standard text-books on medicine, as these should represent the opinion of the majority of educators on our subject, so that the extracts which I shall make from time to time will be taken either from their chapters on the subject or special text-books on the same.

For much of the early medical writings I am indebted to the labors of the Sydenham Society of London, who have translated the works of Hippocrates, Aretæus, Palus Ageneta, and parts of Galen, Rhases and other ancient authorities.

History of Phthisis.

In commencing the history of phthisis, we shall begin by following the course of events of a subject which is as old as history itself. Even before the disease had a modern name it was written about as a wasting disease, and all subjects of malnutrition were thought to be afflicted with this disease. As such, it was described by the ancient physicians of Egypt, Assyria, then by the writings of Moses in Leviticus; but we must pass by what might be said of the manners and customs of these ancient people, when medicine formed part of the priestcraft of early nations; of those semi-fabulous ages in which tradition ran riot, of what might be said of the early practice of medicine among the Jews, of the writings which recent discoveries show that Hippocrates, 400 B. C., learned much of medicine from his predecessors.

Hippocrates, who was skilled in all the arts and sciences of his day, and from whose time medicine assumed the rank of science, must have been well grounded in the learning of medicine from his accurate description of this and other diseases. The Hippocratic face, or countenance of the tuberculous, from Hippocrates' description, has followed largely through the literature on the subject in the description of the symptomatology of the disease, and is the face and symptoms of those who do not live upon a proper diet. Indeed, I observe this form of countenance among those who do not eat a sufficiency of fats. You will find it an accurate guide. "A sharp nose, hollow eyes, temples depressed, the ears cold and contracted, the skin above the forehead hard, stretched and dry, all the face of a greenish color or black or livid, are mortal signs." Hippocrates also mentions cases of consumption which he believes to be due to lack of diet and a hard life. It is interesting to note that the disease was described more particularly as one characterized by gradual loss of weight, and those most frequently subject to this disease, being the smooth, the whitish, the blue-eyed, the red-haired; those with the scapulæ having the appearance of wings, etc. Pus formed and was expelled by coughing. This pus, it was thought, came indirectly from the brain, mucus distilling or falling from the palate and pharynx into the lungs, there producing suppuration and ulcers. Hippocrates believed the disease often followed and led to suppuration of the lungs.

It is thus easy for one to read between the lines that all these symptoms are those of malnutrition and the primary causes which have led to lowered vitality and innutrition of tissues. We shall now follow this thread, pausing only occasionally to note some distinct advance.

Celsus, 50 A. D., described three forms of the disease, viz.: The first due to lack

of nutrition; the second cause, which is only a modification of the first, as the effects of chronic disease, poverty, injurious medicines, etc. But the third cause undid his other good definitions, viz.: *Tertia est longe que periculosissima species quam Græci nominarunt.* It begins in the head, is distilled into the lungs, which it ulcerates to cause fever, which when quieted recurs.

Aretæus, 50 A. D., the Cappadocian, mentioned many of the prominent truths which later-day science proves. Among these we may mention: "The habits most prone to the disease are the slender, those in which the scapulæ protrude like folding doors, or like wings, and those who are pale and have narrow chests." His treatment was mainly dietetic. He recommends sea voyages as benefiting digestion. He says: "After the eating, having rested, the patient is now to be anointed with fat oil."

The prevalence of the disease and its association with thin and under-nourished tissues is shown by the author of this extract. For if one of the common people see a man pale, weak, affected with a cough and emaciated, he truly augurs that it is consumption.

We may note that a contemporary, Isocrates, made such observations as to show the communicability of the disease, and it was held as such by him, and that Vegetius, the veterinary surgeon, remarks that tubercles, like boils, form in the lungs of cattle.

Galen, 140 A. D., recommends his patients to dry climates, Vesuvius being a favored locality, both for its sea air and sulphur. Galen describes the phlegmatic temperament as being attended with a soft and slightly tremid skin. He contributes the disease in their case to a cocochymy, that is to say, to cachexia.

Pliny speaks of navigation as beneficial to digestion and a popular remedy in phthisis.

Avicennas' treatment consisted in giving large quantities of asses' and goats' milk, and in general was like that of Aretæus.

Haly Abbas prescribed the milk of asses in the morning and at night the syrup of poppies. He also praised goats' milk.

Alsaparavius approved in general of a milk diet.

Rhases, the Arabian, described several varieties of consumption, and in his treatment strongly recommended the milk of asses.

The writings on consumption were nearly abandoned by men of note, for the medical historian finds little and nothing new concerning the disease for a period of fourteen hundred years, all accepting the assertions of their eminent predecessors, even though the disease remained incurable.

Early in the seventeenth century, interest was again awakened in the subject through the study of anatomy and observations commenced as to the correct pathology of the disease. It would be interesting to note the steps of many who gained eminence by their devotion to the study of pathology of this disease, and to observe the hindrances placed in the way of advancement by men who would hear of nothing but their old teachings. Hard it is for unthinking man to change who has accepted unfounded teachings as truths, but the rising sun could not be thrust back with the gates of the morning, though the accurate description of tuberculosis was nearly one hundred years in advance of its recognition and acceptance; even then the eighteenth century closed with ignorance and bigotry, for the vast majority still clung to the ancient views of the Grecian fathers. The principal literature of this period was devoted to the study of the tubercle, and which, more modernly, has led to the study of the bacilli, and while it is valuable and interesting, we must again take up the thread of malnutrition and unravel it from the various early text-books.

In 1809, "The Physician's Vade Mecum," by Robert Hooper, gives much attention to the Hippocratic countenance and habit which we have before described.

B. Rush, 1818, "Medical Inquiries and Observations," says: I shall begin by remarking: "That the pulmonary consumption is induced by predisposing debility."

Wm. Cullen, M. D., 1822, "First Lines of the Practice of Physics," says, page 499: "There must be perseverance in such measures as are calculated to give strength and tone to the system."

George Gregory, M. D., 1829, "Gregory's Practice," page 424, says: "It occurs, for the most part, in that peculiar habit of body (the scrofulous) which is characterized by a delicate organization of blood vessels." Page 434: "The diet of a person who has shown a disposition to phthisis should be nourishing."

J. Coster, 1831, "Physiological Practice" (translated from the French), page 131, says: "But experience has demonstrated that the predisposition, the peculiar irritability of which we speak, is most frequently found among individuals who have the constitution which has been named phthisical, the character of which are the following: Narrow chest, long and small neck, slender limbs, a tall, thin statue, delicate skin, circumscribed redness of the cheeks, the lymphatico-sanguine temperament."

John Armstrong, M. D., 1837, "Armstrong's Practice of Medicine," in his discourse on consumption, says that "tubercles are found in the lungs of the lowest classes, because the diet is too spare, because they breathe bad air, and because the clothing is deficient; in the higher ranks because the diet is complicated, because the clothing is deficient, and because the habits, even of the children of this class, are dissipated."

Robby Dunglison, 1842, "The Practice of Medicine," among the causes of tuberculosis, says: "Faulty alimentation is, doubtless, also one of the important extrinsic causes of phthisis, and of the tuberculous condition. Exclusive vegetable diet, or a defective supply of animal food, has been regarded specially obnoxious, but much depends upon habit."

Wm. A. McDowell, M. D., 1843. "A demonstration of the curability of pulmonary consumption in all its stages," says, page 77, as to causes: "All such matters and things, then, as tend to interrupt nutrition, or to obstruct excretion are exciting causes to a degenerate condition of the blood which is the proximate cause of tuberculous disorders."

John Elliotson, M. D., 1844. "The Principles and Practice of Medicine," page 798, regarding causes of consumption, says: "There can be no question but that it is greatly predisposed to by bad food." He gives the Hippocratic description of malnutrition above described.

J. C. Massie, M. D., 1854, "Southern Practice of Medicine," has little to say about consumption, and nothing as to its cause. He recommends and says "Cod liver oil and gentian are highly extolled by the English physicians, and I think deservedly."

George B. Wood, M. D., 1858. "A Treatise on the Practice of Medicine," Vol. II, page 87, says: "Nature and causes. Phthisis does not consist merely in the deposition of tubercles in the lungs, and its consequences. There is besides, a morbid state of system which precedes and attends the deposition and upon which it probably depends."

Thomas Watson, M. D., 1858. "Lectures on the Principles and Practice of Physic," page 158, says: "I have lately met with the following curious statement bearing upon this question as it regards the human animal: According to the very trustworthy report of Dr. Schleusner, who was sent by the Danish government a few days since to investigate the sanitary condition of Iceland, no combination of what are commonly accounted the predisposing causes of consumption and scrofula could be more complete than that which exists among the mass of the Icelandic peasantry. Whole families are huddled up with their sheep, not only during the night, but during the greater part of the day, for half the year, in most miserable hovels, destitute of any ventilation but that afforded by the chimney. Their clothing is not once removed or changed during the whole of that time; their food is scanty and the external atmosphere is both cold and damp. The unhealthy condition of the population is evidenced by its extraordinary liability to epidemic disorders, and by its want of increase, or even in some districts, by its absolute diminution. And yet, amongst this remarkable people, the most uneducated peasantry in Europe so far as regards what is commonly accounted education, scrofula and consumption are unknown. The writer (in the *Westminster Review*) ascribes this immunity to the highly oleaginous nature of their diet, which con-

sists in great part of the oily bodies of piscivorous birds."

Wm. Aitkin, M. D., 1863. "The Science and Practice of Medicine," page 380, Vol. II, says: "For there can be no doubt that in the tubercular or wasting disease, as well as in those of the diathetic order, there is a latent condition existing before the tubercles are apparent. The relation of the nutritive and other morphological changes between the solids and the fluids of the body has everything to do with the development of the tuberculous state." Page 425, "The indications of general treatment are therefore, first, to improve nutrition, which is the cause of the tuberculosis cachexia, and of the exudations assuming the character of tubercle."

"To fulfill the first of the indications it is of all things important that fatty matter be assimilated in large quantities, and it appears that such are most readily absorbed and assimilated when in the fluid condition." Page 428, "Besides cod liver oil, other fats and oils, where they can be taken and assimilated, are sure to be followed with benefit."

Virchow, in 1864-5, the eminent pathologist, in his lectures at the Berlin Institute of Pathology, believed that two factors were to be borne in mind in regard to the prevention and the cure of the disease, viz.: the avoidance of the predisposition and of all irritation. These points, he said, "Were to be secured first by improvement of nutrition, by cod liver oil, sojourn in the open air, moderate exercise, care of the skin, etc."

Thomas King Chambers, M. D., 1865. "The Renewal of Life," says: "The tendency of the formation of tubercle resides in the constitution of the individual. That this tendency may be either hereditary or acquired at once. That the circumstances which quickest develop this tendency are the same as contribute to anemia, want of supplies for the formation of tissue, namely: Starvation, bad air, deprivation of light, exposure to cold without power of resistance, fatigue, previous illness; in short, all depressants of the powers of life." After citing a number of cases cured, he says, where there is a lack of appetite it will return by frequent feedings, he continues, "Leave the respiratory organs alone, and direct your thoughts to the organs of nutrition, the stomach and bowels, which will receive with thankfulness and return with interest any care which you may bestow upon them. It is truly by the aid of the digestive viscera alone that consumption can be curable. Medicine addressed to other parts may be indirectly useful sometimes, but they commonly impede the recovery, whereas aid judiciously given in this quarter is always beneficial and usually successful. The chest is the battlefield of past conflict, the stomach the ripening ground for new levies of life." He recommends cod liver oil, and it will be seen that all his efforts were directed at building up nutrition.

Chas. J. Hempel, M. D., "Homeopathic Theory and Practice," page 794. "An excellent remedy, or rather palliative, in pulmonary consumption is cod liver oil."

Thomas Hawkes Tanner, M. D., F. L. S., 1866. "The Practice of Medicine," page 108. "Tubercular diseases are not only preceded but are frequently accompanied by a disordered state of the primæ viæ, such as biliousness, acid eructations, flatulence, a general bad appetite, conditions which are so constant that some authors speak of them as strumous dyspepsia." Page 370, Treatment: "When the disease is present, when tubercles have become developed in the lungs, we must endeavor to improve the general nutrition." He recommends cod liver oil by mouth, rectum, and by inunction; also other oils and fats in general.

Dr. Herman Eichhorst, 1866. "Hand Book of Practical Medicine," Vol. IV, page 266. "In factory towns and cities, where the proletariat supports on scanty food its overtaxed life in damp, dark, crowded cellars, it is commonest. Scarcely any disease is so much affected by the influence of constitution." He recommends cod liver oil.

Archibald Billing, M. D., 1868, "First Principles of Medicine," did not believe in the cure of phthisis, though he thought there were many palliatives, and believed the system expelled their tubercles by their softening into a creamy-like condition, and in exceptional cases, if the system were strong, the patient recovered. On

page 642 he mentions a case of pleuro-peripneumony; the general symptoms were cough, muco-purulent expectoration, hectic fever, and emaciation. "Abundant nourishment cured the patient in a few months."

(To be continued.)

[Written for the MEDICAL BRIEF.]

The Philosophy of Immunity.

BY PATRICK T. MELDON,

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Professor Emil Von Behring, according to newspaper dispatches, claims that milk from immune cows will give children immunity against tuberculosis. This is an astonishing claim, especially to one who does not know what immunity is. That is, I know what immunity means, but I am ignorant of the chemical composition of immunity in the form of milk. To one who has closely watched the action of tuberculosis, the idea of giving immunity against it is most absurd. The idea would not do justice to the intelligence of a ten-year-old school boy; but that does not necessarily call into question the abilities of a man universally regarded as a scientist. Prof. Emil Von Behring may have design on going into the dairy business.

The bacillus of tuberculosis is wonderfully enduring, and with the exception of the bacillus lepræ, it is probably the most tenacious and resisting.

The question of giving immunity against diseases is being carried too far. This is because the philosophy of immunity has not been scientifically determined. Inoculation with a vaccine from small-pox gives some degree of immunity against that disease; vaccination has proved quite a success in that case, but regrettably from it have sprung all kinds of wanton theories, better expressed as hallucinations.

An attack of yellow fever, it is claimed, will give some immunity against repeated attacks, yet it is not likely that a vaccine developed from yellow fever would give any immunity against an attack of the actual disease. Vaccination just happens to have that effect in small-pox, and merely as an exceptional case. Malaria, for instance, is not necessarily considered a severe disease, and yet any number of actual attacks will not render a patient immune to it. The same may be said of many other diseases.

Those antitoxin serum remedies are only theoretical emulations of small-pox vaccination; they are simply a delusion, and are, in my opinion, a dangerous nuisance, responsible for many fatalities and diverting common sense from developing reliable prophylaxis. The antitoxin serum remedies have to be protected by a drug or they themselves will deteriorate and actually absorb infections. Some of them, it has been discovered, are protected by a minimum of carbolic acid, and where they have had any effect, it was this acid or the protecting drug that did the work.

As the result of an inquest held over a man named Dransfield (about a year and a half ago) in Oldham, England, the county coroner came out with many damaging facts against the antitoxin treatment. Dransfield was treated with antitoxin for tetanus, and the coroner, a Dr. J. C., held that it was attended with fatal result in that and many other cases. This brought out resentment from those who had been waxing fat on a filthy and deadly nuisance.

We need not go to England, however, to find those fatal results of the antitoxines. They are continually happening around us or around where those antitoxines are being tried. But doctors are licensed to try them, or anything, and it seems that they are bent on trying anything but the right thing. Kill and keep quiet, except when collecting a bill for it.

It is simply astonishing how persistently, stubbornly, if not stupidly, and tenaciously the medical profession can hold on to farces. Six months' experience with a remedy, in the hands of a physician of ordinary intelligence, should be sufficient to convince him of what it will do.

THE PHILOSOPHY OF IMMUNITY.

When the system is attacked by a disease, the mind at once makes an effort to resist it. In doing so, her first impulse—instinctively—is to develop a specific

remedy and direct it against the disease. The organ of alimentiveness, not the whole mind, however, develops the remedy. Alimentiveness presides over the digestion and assimilation of food ingested, and from it, we suppose, she develops her remedy. In this regard I have noticed that those who have this organ large are by far the most amenable to the curative effect of the drugs they ingest. Note, I have said, "those who have this organ large are by far the most amenable to the curative effect of the drugs they ingest." But at the same time I have noticed they are often the poorest to resist a disease without the aid of a drug. This may appear like an inconsistency, but it is not. It simply takes the organ of alimentiveness some time to develop the right remedy with which to attack a disease, while in the meantime—if that organ is large—she instantly makes a vicious attack on the disease—with or "without" a remedy—and the result is a violent inflammation at the seat of inoculation, or primary lesion. If, then, the disease is severe, rapid in its course and progress, it may quickly prove fatal, so that a large organ of alimentiveness often is the poorest to resist a disease without the aid of a drug.

The serous secretions of the system are very susceptible to the infection of pathogen. Those secretions are found abundantly in the skin and are salty in composition. Salt is the mind's prophylactic against inoculation of a disease from without, or the absorption of it from within. Some individuals have salt abundantly in their serosity, and as a result they are far less liable to infection than are those who are scant in salt in their serous secretions. Of course, salt is simply Nature's prophylactic—a remedy naturally at the disposal of the mind, but then she is, in some cases, without question, capable of developing remedies having a medicinal curative effect. She resists a disease wherever it attacks her —internally or externally—but she is at her best in resisting a disease of the skin. This is why severe skin diseases—most of them—have to persevere for years before they can effect serious damage. Our skin is the most sensitive part of our system, or over it the mind seems to have most control; a slight burn on the hand is actually more painful than a deep gunshot wound.

In resisting a disease—whether it be of an internal or external character—the mind learns to do all she can in the case; when she has learned to do this, the acute stage subsides. In some cases she conquers the disease and seemingly she never forgets how she did it. In dealing with her first attack of a disease she may have a hard fight to conquer it, but if she is attacked again by the same disease, she is likely to conquer it without much effort—the first attack caused her to learn how to do it. That is the principle of immunity—it is all there is in immunity—and it is free for you to transfer it in milk, if you can.

Small-pox is a disease of the skin, but that is not altogether why a vaccine developed from it will give immunity to an attack of the actual disease. The vaccine of small-pox is an actual virus, and in its toxic course and action—though it may be mild—it closely simulates the reality of the disease itself. It is so much of a realty, in fact, that some cases of vaccination have proved fatal.

Small-pox runs a brief course and is very definite in its character and action. No matter how deeply it affects the mucous membranes, its "disposition" is to come to the "surface" of the skin, produce pus, incrust itself, retarding its own progress, and is then either killed or expelled by the action of the mind over the body. At best, this disease, as we see, can live only a short while in the system, but it is vicious and resisting and will run its course—"severe or mild"—despite all we can do to act upon it. It acts like gaseous elements in poisonous combination, readily absorbed from within and causing destruction and death as it escapes through the surface. As a violent destructive disease, definite in its course and action, small-pox has no comparison. Vaccination gives some immunity against it simply because the disease is short-lived and would, if it could, live on the very surface, where the influence of the mind is most resistive; but were it possible for the disease to live

beneath the skin, vaccination could serve no purpose. Beneath the skin, its pus "attendant" would not form incrustations, and as a result there would be little or no impediment against its violent action. Briefly stated, there are many apparent reasons—not here mentioned—for vaccination to give immunity against small-pox. The same reasons are not in the least apparent in other diseases, and as a result, vaccination never will have any resisting force against them.

There are reasons, even in this disease, to believe that the result obtained by vaccination of small-pox's matter is not as pronounced as therapeutists, clinicians, suppose it to be. It moderates, we suppose, an attack of the actual disease, but it does not shorten its period of incubation nor alter its definite action. In this regard men theorize and contend that vaccination of small-pox's matter has moderated the virulency and toxic action of the disease itself. The disease is as virulent and as toxic as it ever was, but we are not as susceptible to it as were men formerly. Vaccination simply helps train the mind to resist it, while at the same time the mental temperament of man is changing or training herself to resist these things as we pass down through our progressive tribulations of time. Our sensibilities are gaining temper and resistive force every day. It is evident that we have passed from an epoch of mental and physical susceptibility to at least an epoch of mental inflexibility. Even boys, and some girls, now are so stubborn and incorrigible that reformatories soon will be as numerous as were pest houses in the past. So it would appear as if the temperamental change in man merely saves him from a pest house, but lands him in a prison.

The mental susceptibilities of men certainly have greatly changed during the past few score of years. If, sixty years ago, you should put a rifle bullet in a man's hand (we can justly assume) this man would reflect on it, feel his skin crawl and his hair lift his hat. But today, should you point a loaded gun into the face of that man's grandson, he would be only likely to say, "You damn fool, point that gun the other way, don't you know it is loaded and liable to go off?"

The heart of man is annealing,
(It was soft not long ago),
But the heart of his sister
Is melting with kindness—yes!
See madame go out with her poodle,
His chip diamond collar to show,
And see poor little Alice go begging
And leaving her bloody foot-prints in the snow.

[Written for the MEDICAL BRIEF.]

Psychology and Surgery.

BY A. A. LINDSAY, M. D.,
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In surgery as in therapeutics, the subconscious mind (psychic) factor must be properly considered or the operation is not truly successful.

Amputate a limb, and yet the patient feels to the end of his toes. Remove a tumor and its pressure upon nerves and yet the patient continues ofttimes to suffer the same pain in all the parts.

Operate for stammering and lisping and other speech and voice affections, and yet the sufferers lisp or they stammer or show whatever evidence of obstruction they did before. The resort has been to repeated operations and sometimes, no doubt, there is a psychic effect from the first or succeeding operations that overcomes all symptoms that were disorder indications that lead to the operation, but a large percentage of persons operated upon have the same or more aggravated symptoms after surgical operations than before. The surgeon is nonplussed over his "Exact Science," and seeks remedy in more of the same thing, cutting.

You may have had a horse that you drove to one side of the road at a given point because there was a log lying in the way of direct course. Probably you had to guide him to avoid the obstacle several times, and finally the log was removed, but your horse continued to go over to one side as formerly. The horse sees there is no log in the way, but something causes him to go the way he has been going, even at an inconvenience. Taking something or more from the middle of the road, or cutting some of the horse's anatomy, neither drenching him with medicine,

would seem to be the helpful thing to do, but rather you would say there is a habit in the horse that leads him to go to the side track, and when you think, you always conclude that habit is not something in the chemistry or material or tissue of the animal, but is an impress upon the mentality of the beast. You would retrain his mind, knowing his body would follow accordingly. Surgery often does a fine work in removing the obstructions, but the habit was not in the matter removed, and there is not that in the removal that retrains the mind in which involuntary habits have been fixed, so the individual keeps the same side of the road that he went before the removal. Now, if habit were simply an impress of custom upon the voluntary or objective mind, why, of course, when the patient saw he had had the cause removed for his doing or feeling as he had, he would cease to retain those things that characterized him when he had his former physical condition.

He wills to be natural now that cause is removed, but habit is superior to his will, for this will is a faculty of the conscious or voluntary mind. Habit is an impress made upon the subconscious mind, and the surgeon must recognize that until that mind is retrained; the physical modification will not cure the disease symptoms which have become habits of that subconscious mind.

My attention was called some months ago to a gentleman who had a symptom of disorder in the form of nausea which had become so serious that for a year he had been unable to swallow and retain food. This deathly sickness was constant except for a few minutes after taking a hypodermic of morphine, and he had done this until that habit was fixed upon him with its ever-increasing dose. One surgeon said his stomach acted thus reflexly because of an intestinal misplacement, and so opened his abdomen. He found everything right there, and he was sewed up and permitted to heal up, but no effect upon his nausea; yet much surgery is done for its suggestive effect. Another surgeon said it was all due to a floating kidney which, if it were anchored, his nausea would cease. Accordingly he made proper incision for that and found his right kidney just as nature had fixed it, right and sound.

The medical man took his turn at a guess, and carried him through a course of mercurials by inunction, but the poor sufferer was reduced to skin and bone, with no subsiding of the awful nausea.

In that case that fellow would have suffered all the agony of nausea, even if they had removed his stomach, for the deathly sickness was a habit, and habit is of the subconscious mind, that carries the body, or any part of it, whether we will or not, and never, until that which presides over habit is impressed, will the symptoms disappear.

It is true, in a percentage of instances, that when the physical cause is removed, the subconscious mind is so impressed that the symptoms and suffering disappear, too; but it is just as true that a very large percentage receive not sufficient psychic impress to give up habits that were associated with the former physical state.

As my next article will be upon the psychology of habit, in which I will publish psychology's explanation of disease heredity, I will desist from treatment of that department of this subject and close this with the suggestions to the surgeon that practical psychology and suggestion holds for him.

Since the psychic factor is the larger factor in even surgical results, it is my pleasure to give the formula in its application.

Suggestions given to the conscious mind during its activity do not have any effect in most instances, simply because the patient does not permit his subconscious mind to act upon them. To use suggestion scientifically you must suggest to the patient in a partially passive state. No need for him to be hypnotized, only passive, so you get to his, by some called the unconscious mind, but I call the superconscious or subconscious mind or soul.

These suggestions should be given by the surgeon or his assistant as a preparatory treatment, suggesting that all the symptoms, subjective and objective, will disappear, that have been present in the disorder.

(This sort of preparatory treatment will remove the cause for operation so

often that if there is really such a man as a commercial surgeon he will not want to use it).

The suggestion of perfect recovery from operation and disappearance of all former disorder symptoms should be a part of every after-treatment in surgery, as it will prevent recurrence of old troubles and avoid many neuroses that follow operations. As a final word, I wish I could impress the surgeon and those who have the after-care of the patient, to give the nurses such a course in psychology that they would never any more talk to their patients about certain complications or other untoward things that may have happened to some one else they had nursed or heard of who had had similar operations performed.

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[Written for the MEDICAL BRIEF.]

Why a Physician Should Be a Total Abstainer from Alcoholic Liquors as a Beverage.

BY HAROLD THEODORE HOUG, M. S.,
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A physician is a student of nature, a natural philosopher, one who is skilled in and practices the art of healing, one who, being duly qualified, prescribes remedies for diseases; especially one who has passed an examination before a competent authority, such as a recognized medical college or State board; strictly speaking, a physician is a man whose life is full of responsibilities. He must be a man who can execute the duties of his profession justly, and for the following reasons, he must not indulge in intoxicating liquors as a beverage:

First—Because moderate use of alcohol will lead to chronic alcoholism. The first drink will have a tendency to give a craving for a second. Avoid the first, the rest will take care of themselves. Companions and friends, such as are met with at dances and card games, and parties, should be carefully avoided, as they are often the downfall of an upright person, by encouraging him to drink. "Resist such temptations." You may be ever so good a dancer, player or drinker, but you can not dance, you can not play, you can not drink yourself into any exalted position in life. If the habit is once acquired, a craving appetite will be established.

Acoholism is a term applied to different pathological processes which are detrimental to humanity, having a grave effect on various organs and tissues of the body. The conditions differ somewhat whether large doses are taken or whether small doses habitually, and hence, are under the two classes, acute and chronic alcoholism. The large dose, as in the acute form, causes catarrh of the alimentary mucous membrane, rapid coma, some cases of delirium tremens, and certain cases of acute insanity, while to the chronic habitual drinker are the prolonged congestions, fatty and connective tissue degenerations of the various organs and tissues, most cases of delirium tremens and nervous affections of slow onset and course. It is also the cause of the well-known degenerated conditions of arteries, known as atheroma.

Second—Because a physician must be a man who, by his honorable deeds and life, holds the confidence of the people. He must be sober, industrious, have a strong, determined will, and, above all, have a good moral character. He must have the power to resist temptation, but every time his passion is overcome by drink, he lowers his power and lowers his morality. A physician without morality has no respect for others nor for himself. Secrets can not be entrusted to such a man, as he would be guilty of revealing them to his fellow-drinkers.

Third—Because the brain, like almost all internal organs of the body, suffers from constant use of alcohol. The contraction of new areolar tissue presses upon and obliterates some of the nervous elements. A physician needs all the brains that have been given him. He must develop them. His duties demand them. He must be active and capable of good reasoning, of a clear mind, since the patient's life depends on his ability.

While employed as a prescription clerk, I had ample opportunity to note several grievous errors committed by physicians who were addicted to the drink habit. I remember one case very plainly, in which the physician, in a semi-intoxicated con-

dition, had prescribed an over-dose of liquor potassii arsenitis. I had to wait until he became sober before I could fill the prescription. When he finally regained his normal state of mind, he could not recollect for whom he had prescribed. Therefore, a physician should be a total abstainer from alcoholic beverages.

A physician has striven hard to educate his five pounds of brains, and has placed behind them ten pounds of determination and energy to rise to the top of his profession. Before him God has placed the whole world; told him to subdue or conquer. He has given him health, life and vigor. Everything possible has been done for him. Is it not, then, a disgrace if he allows alcohol to rob him of his honor, of his will-power and of his ability?

[Written for the MEDICAL BRIEF.]

Drug Addiction.

BY W. S. ROBINSON, M. D.,
Nashville, Ark.

It is evident that the subject of drug and drink addiction is a most vital one. Investigations from reliable and respectable sources show that at least thirty-five per cent were started on the drug habit by drinking whisky. Some stop the use of spirits, but continue some form of narcotic drugs; the constant alternation between spirits and narcotic drugs, is very common. The cocaine user seldom gives up his drug; the fascination of the subtle and seductive influence of this drug is so great and overpowering that its user seldom gives it up for other narcotics.

The use of narcotic drugs, unlike whisky and other spirits, produce pallor of the face—a form of vaso-motor paralysis which not only affects the blood vessels, but the muscles also. The pupils of the eye always vary and are sensitive to light during the first few months' use of the drug, and, consequently, there is very little change in the general appearance of the user of the drug. Only in the last stages gross pathological changes are marked and evident. Whisky quickly shows changes, and fibernous deposits in the cells of the liver, kidney and arteries. Oxidation is the essential element in all metabolic activity, and the effects of drugs upon living cells can be fully appreciated when we keep in mind the fact that phagocytosis is the chief means of bodily defense against bacterial diseases.

Narcotic drugs affect and effect all the abdominal viscera, paralyzes the centers which control the splanchnic nerves—relaxation of the great portal vein—stagnates the blood in the liver and spleen. It interferes in a most marked degree with their functions, instead of reinforcing their energy. Now, the cause of this awful condition, in a great many cases, is the continued use of patent medicines. But it is also a regretable fact that the family physician is the initiative factor in very many cases of the drug addiction, and it is high time that we, "the enlightened knights," advisers of laity, were up and doing something to remedy this awful evil (drug addiction). It is strange, but true, that I have treated for "drug addiction" something over one hundred physicians, and it strikes me that drug addiction is largely on the increase with the members of the profession. Some of the brightest men in the profession have been my patients, and they all tell me that they began in the most innocent way to use a little opium to relieve pain, and to give them rest. Little by little the meshes of this fascinating narcotic are woven about them. A craving is created which no one can quit, unless he has help. The will, which is the moral balance wheel, is first enfeebled, then paralyzed. The perception of right and wrong is clouded; the sense of moral responsibility disappears, the natural affections are blunted, and a disgusting selfishness, apparent to every one but its possessor, dominates the victim. In its scope it not only embraces the ills referred to, but it alienates the love of friends and relatives, and *ad infinitum* from bad to worse.

It is a fact that drug-using of all kinds is increasing each year. Look at the public and private asylums in this country to-day. Who is responsible? The conditions under which we live, at present, are full of hypocrisy and perverted ideas of vice and disease. Statistics show that there are more than one hundred thousand drug addicts in the United States, and this alone is greatly responsible for the insanity and suicide in this country.

[Written for the MEDICAL BRIEF.]

Pure Air for Pneumonia Patients.

BY J. W. BRYANT, M. D.,
Shamrock, Mo.

I write an article on pneumonia at this late date in the season, because if pneumonia is caused by mice we are likely to have an epidemic of the disease at any time and at any season.

Dr. Palich has found that young mice are especially susceptible to the d. l. b. c. (diplo-lanceo-bacilli-cocci), and that they (the mice) are more abundant in the house through the months of December, January, February and March.

The little mice run around in the house for food, come in contact with human sputum loaded with the d. l. b. c., and then in turn scatter their alphabetic germs by their feces, urine and dead bodies. The scientist found two dead mice which showed many d. l. b. c. in smear preparations made from their blood.

I would not like to deny that mice could cause penumonia, but could not these two little mice have died with pneumonia? Is not the scientist losing sight of the fact that the human being who dies of pneumonia leaves a body that is loaded with the germs of the disease? And yet we rarely have a case of pneumonia following in those who have been attending on a pneumonia patient.

In the country, mice range from the house to the corn crib. They soil the corn with feces and urine and their dead bodies. Has any one suspicioned that horses are prone to lung fever after there has been a case or cases in the family house?

I can not see that the scientist has proven his case, even if the two little dead mice were loaded with the d. l. b. c. Two little dead men loaded with the pneumococci ought to serve the turn just as well. It is the accumulation of facts upon which a scientific truth is founded.

Two hospitals—the Presbyterian Hospital in New York City and the Fordham Hospital—claim to have experimented in the cold or open-air treatment, which has resulted in a cure of ninety-five per cent.

If I were to attempt to formulate a medical treatment for pneumonia based on my own experience, I could hardly recall the remedies used from one case to the next. A cool room—I do not know how cool—I do not regulate it by a thermometer—is my first requirement. A blister to the affected side relieves the sharp pain. If the patient is young and robust and grave symptoms appear at the onset, I open a vein and extract fourteen to sixteen ounces of blood. I did this in a case when the fever was high, breathing rapid and painful (first day of attack), and I extracted fourteen ounces of blood from an arm. The patient got easy and went to sleep in a few minutes.

I notice that doctors writing on pneumonia lay down a special line of remedies without giving a single thought to the sick-room.

I condemn any such practice. If you do not give the patient plenty of cool, fresh air, you would just as well pour your medicine into a rat hole. I have seen a pneumonia patient (a railroad employe) moved to the hospital in a snow storm, who made a rapid recovery. It is a joke on a doctor who practiced in a neighborhood adjacent to this that he was so fearful his pneumonia patients would be exposed to the outside air that he stopped up the key holes. All his pneumonia patients died except one poor man who lived in a house so open that the air could not be kept out.

Why is it that some doctors pronounce pneumonia incurable, while another class declare that it is the easiest of all diseases for them to treat? Is it some occult influence? I hardly believe it. The man who has success in pneumonia is one who has learned that a hot, close room will kill his patient, while cool or cold fresh air is the rational treatment. I usually permit a low fire in the grate or stove, though as successful a case as I ever treated was in a room without any fire at all.

There is no drug specific for pneumonia. Give the patient cool or cold fresh air, a clean bed, and intelligent nursing.

I do not want to miss the BRIEF, and don't see how I can do without it.—D. B. WILLIAMS, M. D., Georgetown, La.

Book Notices.

MATERIA MEDICA AND THERAPEUTICS. An Introduction to the Rational Treatment of Disease. By J. Mitchell Bruce, M. A., LL. D. (Hon.), Aberd., M. D. (London), Fellow of the Royal College of Physicians of London; Consulting Physician to Charing Cross Hospital, and to the Hospital for Consumption, Brompton; Formerly Examiner in Medicine in the University of Cambridge and on an Examining Board in England; and Examiner in Materia Medica in the University of London and in the Victoria University. New and Enlarged Edition, Revised Throughout and Containing the Indian and Colonial Addendum to the British Pharmacopœia. Forty-Ninth Thousand. First American Edition, with the Formulæ Adapted to the United States Pharmacopœia. Chicago: W. T. Keener & Co. Price, $1.75.

When forty-nine thousand copies of a work, having its first edition printed in 1884, and repeatedly revised and brought up to the latest knowledge on the subject, it must have merit. You will soon learn that the best-posted physicians have the meritorious works in their libraries. An improvement in former editions will show in this one the chemical and pharmaceutical relations of individual drugs, and to the additions and alterations are due the fact that forty-eight pages have been added. One important feature of this work, that should not be overlooked, is that of systematically tracing the physiological actions and uses of the different drugs in their passage through the body, from their first contact with it locally until they are eliminated in the secretions. The many new features in this work has gained it world-wide recognition.

THE PRACTICAL MEDICINE SERIES. Comprising Ten Volumes on the Year's Progress in Medicine and Surgery. Under the General Editorial Charge of Gustavus P. Head, M. D., Professor of Laryngology and Rhinology, Chicago Post-Graduate Medical School. Vol. I., General Medicine. Edited by Frank Billings, M. S., M. D., Head of Medical Department and Dean of the Faculty of Rush Medical College, Chicago, and J. H. Salisbury, A M., M. D., Professor of Medicine, Chicago Clinical School. Series 1906. Chicago: The Year Book Publishers. Price, $1.25.

The quality of the matter in these works, like the quality of the articles in the BRIEF, show the great advances made in medicine. So great is the mass of really valuable literature that the Editor's duty becomes onerous. It is easy to eliminate the bad, but judging among the good is a task that the reader fails to appreciate until he finds new thoughts among all he reads in present literature. It is always of interest and generally of value to know the results of investigations of men who have by their labors proved their right to rank as leaders of medical thought. The Year Book Publishers are to be congratulated on selecting good material for their works, and should find encouragement.

BLAKISTON'S QUIZ COMPENDS. A Compend of Obstetrics, Especially Adapted to the Use of Medical Students and Physicians. By Henry G. Landis, A. M., M. D., Late Professor of Obstetrics and Diseases of Women in Starling Medical College. Revised and Edited by William H. Wells, M. D., Demonstrator of Clinical Obstetrics in the Jefferson Medical College, Philadelphia; Gynecologist to the Mount Sinai Hospital, Philadelphia; Late Adjunct Professor of Obstetrics and Disease of Infancy in the Philadelphia Polyclinic; Fellow of the College of Physicians, and of the Gynecological Section of the Same; Member of the Pediatric Society of Philadelphia, Etc. Eighth Edition, Illustrated. Philadelphia: P. Blakiston's Son & Co. Price, $1.00.

For the student, whether he is yet in college or practicing medicine, there is nothing that will sweep the cobwebs from his brain more easily than a thorough reading of these compends. The student needs the best coaching he can get and the general practitioner needs have questions put to him to cause him to think and investigate.

THE INTERNATIONAL MEDICAL ANNUAL. A Year Book of Treatment and Practitioner's Index; 1906; twenty-fourth year. New York: E. B. Treat & Co. Price, $3.00.

This annual has been a winner, as shown by the fact that its sale has steadily increased each year of its existence. The issue of this work has been delayed by a fire, and some of the original manuscript was lost, but the contributors were kind enough to re-write the articles, and thus were able to add much good material that will be appreciated by all who are favored with a copy. Even a casual

glance at this work would not suggest the fact that any hindrance to its issue had been sustained, as it seems to be better than ever in its history. American institutions always rise from their ashes greater than ever, and this is no exception.

FOOD AND THE PRINCIPLES OF DIETETICS. By Robert Hutchison, M. D. (Edin.), F. R. C. P., Assistant Physician to the London Hospital and to the Hospital for Sick Children, Great Ormond Street; Author of "Lectures on Diseases of Children," "Patent Foods and Patent Medicines;" Joint Author of "Clinical Methods." With plates and diagrams. Revised edition. New York: William Wood & Co., Publishers. Price, $3.00.

Dr. Hutchison says he wishes to thank physicians for their appreciation of his work. On both sides of the "pond" his work has been accorded a welcome, and justly so. The important changes in the present issue will be found in the dietetics of disease, which a wider clinical experience has enabled the author to expand considerably. Nearly every chapter has been altered and added to, because the experience of the advances made in the past seem to demand such. This is a trying and important subject, and demands the most careful study, if results are desired, therefore, it should have a most careful reading.

SKIASCOPY WITHOUT THE USE OF DRUGS. A Practical Treatise for Optometrists. By R. M. Lockwood, Author of "Principles of Optometry," "The Trial Case and How to Use It," "Subjective Tests for Difficult Cases, Frames and Lenses." Illustrated. New York: Frederick Boger Publishing Co.

This work, the result of long and patient effort and experiment on the part of the author, solves the problem of how the skiascope or retinoscope may be used to give exact results without recourse to cycloplegics. The work meets a strong modern demand, inasmuch as those seeking eyeglasses and spectacles, who decline to allow drops to be used in their eyes is steadily increasing, until it is rapidly coming to the point where all those who wish to continue in this line of work, whether medical or not, must meet the demand of those who seek their aid by a correct technique without drugs, or else retire from the field.

PRACTICAL DIETETICS. With Reference to Diet in Disease. By Alida Frances Pattee, Graduate Boston Normal School of Household Arts; Late Instructor in Dietetics, Bellevue Training School for Nurses, Bellevue Hospital, New York City. Third Edition. New York: A. F. Pattee, Publisher. Price, $1.25.

This is a work that appeals to the physician, the student, the nurse, and the home, on the score that anything in the line of food for the sick should have as much attention as the drugs used in the case. The sick are fastidious to a degree, and the nurse should not only suit the desire, but give foods that are life-giving and nourishing, and properly prepared and appetizing. This book tells you how to do it properly and economically.

A MANUAL OF MATERIA MEDICA, THERAPEUTICS AND PHARMACOLOGY. With Clinical Index. By A. L. Blackwood, M. D., Professor of Materia Medica and Clinical Medicine in the Hahnemann Medical College, Chicago; Author of "Text-Book of Diseases of the Heart and of the Lungs." Philadelphia: Boericke & Tafel. Price, by mail, $3.60.

This is a work on Homeopathic Pharmaceutics, but appeals to all pathies as a condensed resumé of materia medica of all remedies in common use to date. Under the heading of Therapeutics, the cardinal indications for the remedies have been given from a therapeutic standpoint. A liberal physician always reads the works of standard pathies and thus gains a knowledge that makes him successful in practice.

PROCEEDINGS OF THE AMERICAN FOREST CONGRESS. Held at Washington, D. C., January 2 to 6, 1905, under the Auspices of the American Forestry Association. Published for the Association by the H. M. Suter Publishing Co., Washington, D. C.

Since the thoughts developed by this Congress in regard to the preservation of trees, we find that new interests have developed. Cities have appointed new offices of forestry, conspicuous of which is St. Louis. The office has imposed the duty of an officer, with ample capital, to see that the city is fully protected in regard to the growth of trees and shrubbery. This seems to be the initial result of the congress. No other city has made laws to govern the ideas of the subject, like our own. It is well to follow St. Louis, and beautify your home city or town.

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Editorial.

Tact.

Few men in any department of life are so great that they can dispense with tact. It is absolutely essential to the man who wants to succeed as a practitioner of medicine. No matter how much a man may know about diagnosis and drugs he must have the tact to make himself personally agreeable to secure the good-will and patronage of the community.

Some men possess ability of such a commanding order that they succeed, even though bores, but these cases are exceptions. The majority of men will find it necessary to cultivate and use all the tact they possess.

This does not mean that the doctor shall be an intellectual chameleon, of course. He has a right to his own opinion and to a manly independence of action. He will be respected for having and holding to his own course.

The man blessed with a kind heart and a fair disposition will naturally consider the rights of others as well as his own; he will know how to act to advantage without arousing opposition or creating friction.

Egotism and selfishness are the greatest obstacles to the use of tact. The selfish man can never see but one side of a question, and the egotist is morbidly sensitive, weak and vain. Tact requires common sense and clear conceptions.

The tactful man is an optimist. He is well-groomed, calm, assured, pleasant. He is interested in your case, but there is nothing familiar in his manner. He appears never to see anything which he should not see. The unfailing courtesy of the tactful physician will save the most awkward situation.

Some patients require management more than drugs. Like skittish horses, they know the hand of a master on the rein, and like these same horses again, are correspondingly grateful to abandon caprice and self-will to know they are in good hands.

It requires much tact for the doctor to steer his way amid gossip, calumny, the varying views of his patient's friends and

relatives, without giving offense or making injudicious concessions. It can be done. The doctor who is honest, kind and able, can find the necessary tact to serve his purposes to the satisfaction of all concerned.

It is a good plan to take it for granted that people want to do right, and will agree with you if your intentions are good, and you give your instructions pleasantly. The man who tacitly admits by his manner that the other man has something to say for himself which deserves respectful hearing and consideration, has prepared that other man to think well of him and his idea.

The man who cultivates tact for any reason whatsoever, will find that it not only aids him in his career, but that the effort will insensibly broaden, deepen and sweeten his whole nature.

Friends.

You often hear men grumble because they have no friends. You hear them say that friendship is a farce. But when you come to think of it you find that usually all men have friends who understand the nature and worth of friendship, who are willing to do their part. How can you expect a man to be a friend to you if you are not a friend to him? If he deserves your friendship, if there is something in him which wins your regard, why not go out of your way to do him a favor or to advance his interests? Why not stand up for him when he is abused, and is not present to defend himself? It is not necessary for you to tell your friend how you feel. If you act the part of one he is sure to find it out, and to realize your worth.

All men have friends who deserve them. Once in a while a man goes back of us, but fortunately this is the exception, not the rule. Never let yourself forget that if you really deserve the friendship of a man and pursue a course to retain that friendship, it will be yours. There is no greater pleasure than the bond between strong friends. What greater happiness can there be than to know that there are men, able, willing and ready to befriend you if you need their good offices? On your side how glad you are to say a good word for them, to look out for their interests when the opportunity presents itself. What a genuine thrill shakes you when you grasp the hand of some old, true and tried friend.

[Written for the MEDICAL BRIEF.]

A Case of Idiosyncrasy of the Skin, From the Use of Mercuric Chloride.

BY ROCCO BELLANTONI, M. D.,
New York City.

M. C., Italian girl, aged twenty years, of very robust and healthy constitution. Was operated on by me for subaxillar abscess. I used a dressing of solution of corrosive mercuric chloride (one one-thousandth), using less than one litre of the solution. The medication was very simple, as I placed upon the skin sterilized gauze wet in the same solution, after which I applied dry, sterilized cotton and band.

Next day, when I saw the patient, I found the skin of the entire axilla of the subaxillar region portion of the near lateral anterior and posterior regions of the forearm of scarlet color, and sprinkled all over the surface with small vesicles, which contained pus. There was aggravating itching, almost unbearable, and the appearance of burns of first degree. This appeared wherever the corrosive sublimate flowed.

The same lesion was also on part of the anterior and posterior face of the axillar walls, where the gauze had settled down.

The girl told me that several years ago she had suffered the same injury from the use of the other solution of mercuric chloride, used on her by a physician who was surprised at the results. After three days she had almost recovered from the operation for the abscess, but on the surrounding surface she had ulcerations exuding pus.

After this experience I shall not use such drastic remedy, but a milder antiseptic in such cases. I cleaned these ulcerations each day with sterilized water, and covered with sterilized gauze and cotton, and cured the lesions with powder of bismuth subnitrate sprinkled on sterilized gauze, and cotton well-padded on, and the trouble disappeared in a few days.

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[Written for the MEDICAL BRIEF.]

The Therapeutics of Arsenic.

BY FREDERICK NORMAN, M.D., F.R.C.S., D.P.H.,
Surgeon to the Camberwell Dispensary.
London, England.

In the course of one's professional life, and as the result of many years' experience and observation, it is possible to acquire a certain amount of familiarity with the action and uses of a limited number of drugs. More than this, unless one is a professional pharmacologist, is not possible, and one cannot expect to have the therapeutical application of every drug in the Pharmacopeia at one's finger's ends. As a matter of fact it is not necessary to have a large supply of medicaments. It is better to use only a few, and to be practically acquainted with all phases of their action so as to be able to regulate the dose, mode of administration and frequency of repetition to a nicety. It is well to know not only when to exhibit a drug, but to be able to recognize almost by intuition when it is likely to prove harmful. It is desirable, too, to familiarize one's self with its toxic action so that whilst dealing with massive doses the first sign of the appearance of untoward symptoms may be promptly recognized. The common tendency is to give active drugs in doses which are so small as to be inefficacious. It is not an infrequent usage to suspend the administration of a remedy just as soon as it is beginning to produce symptoms and effect the desired end. This I am sure is a mistake, but the timidity is inevitable when one is not perfectly familiar with the agent one employs. To get good results, chemically pure drugs must be used, for if they vary in strength and contain impurities, an element of uncertainty is introduced, and the physician works in the dark.

Arsenic, or rather arsenious acid, is a powerful toxic agent, but it is one of the most valued of the therapeutical means at our disposal. I have employed it for many years in all kinds of complaints, and I have carefully watched its effects, both in large and small doses. The subject is a wide one, and I cannot hope in the space at my disposal to deal with it exhaustively. I shall give briefly the results of my own experience supplementing them when necessary by the published records of others.

In chlorosis arsenic acts primarily on the nervous symptoms which accompany the disease, and only in a secondary degree on the chlorosis itself. Iron, on the other hand, is a specific anti-chloritic. Although iron has the preference in true chlorosis, arsenic is the better remedy in cases of pernicious anemia.

In connection with this subject reference may be made to some recent observa-

tions of Stockman and Greig. Stockman points out that arsenic is known to have a remarkable effect in increasing the number of red blood corpuscles in some cases of pernicious anemia, of leukemia, and of lymphadenoma, although not infrequently in these diseases the blood condition is not perceptibly improved by its administration. In malarial anemia also its hematinic value can not be doubted, although its mode of action remains obscure. In chlorotic anemia it is very commonly given along with iron in the belief that it hastens and improves corpuscle formation, yet cases treated with arsenic alone do not show any signs of improvement in the blood condition or otherwise. In health also it is incapable of increasing the number or red corpuscles above the physiological maximum, but this is equally true of all other tonic or dietetic measures, and *a priori*, therefore one would not expect it to do so. So far no experimental or other attempt has been made to explain the effects of arsenic on blood-corpuscle formation in those diseases in which it has proved of value clinically, and it was in the hope of obtaining some information in this direction that they undertook their research. The observations were made on young and adult rabbits, and on young dogs, the arsenic being given in small doses over long periods.

The following is an abstract of the first of these observations:

Five young, healthy rabbits were taken from the same litter, and when they were between three and four weeks old, arsenic in small doses was administered daily to three of them, while the other two were kept for purposes of comparison. A one per cent solution of arsenious acid, made up with water and sodium carbonate, was used, so that actually arsenite of sodium was the form in which it was administered. The solution was given hypodermically. The blood was examined almost daily with the Thoma-Zeiss hemacytometer and Von Fleischl's hemoglobinometer. The observation lasted sixty-eight days. From the first to the eighth day the control of blood examination showed that the red corpuscles ranged between 5,397,000 and 5,712,000 per cubic mm. The hemoglobin kept constant at sixty per cent. The doses of arsenious acid given daily were one-fiftieth grain from the ninth to the twentieth day, one-thirty-third grain from the twentieth to the twenty-fifth day, one-twenty-fifth grain from the twenty-sixth to the thirty-seventh day, one-sixteenth—one-eleventh grain from the thirty-eighth to the forty-second day, one-tenth grain from the forty-third to the sixty-eighth day. On the sixty-eighth day the animal showed symptoms of paralysis (apparently from arsenical neuritis), and was killed. It had remained up to this time in perfect health, and its weight had increased from five hundred and thirty-five to eight hundred and forty grams. In the same time the weight of the control rabbit had risen from three hundred and seventy to eight hundred grams, while its blood remained practically constant as regards corpuscles and hemoglobin. During the whole time of the arsenic administration no change took place in the number of red or white corpuscles, nor in the amount of hemoglobin, nor were any morphological changes observed in the cellular elements, although the blood was frequently examined, both fresh and in films variously stained.

The conclusions arrived at by Stockman are that in healthy animals arsenic does not increase the number of red or white corpuscles, nor the amount of hemoglobin. This, however, is capable of being interpreted in two widely different ways: (1). The arsenic may stimulate the formation of red blood corpuscles but there may occur simultaneously a corresponding increase in their breaking down, so as to keep the number present in the blood at a constant quantity. There was no evidence of increased breaking down so far as any increase of iron pigment could be detected in the liver, spleen or other viscera. (2). In health there may be no increased formation of corpuscles under the action of arsenic. As before remarked it seems to be impossible by any method of treatment to increase the number of red corpuscles in health beyond their physiological maximum. A limit is apparently set, but by what physiological mechanism in the organism it is impossible to say in the present state of our knowledge. As iron, good

food, tonics and other means (except high altitude) all fail to increase the richness of the blood in corpuscles and hemoglobin, it is not astonishing that arsenic also fails in health.

As regards its action as a hematinic in pernicious anemia and other morbid conditions, experiments point very conclusively to a stimulation of the bone-marrow. In these cases, however, although it may increase the number of blood corpuscles, it does not affect the real cause of the disease, and, therefore, must be considered as a purely symptomatic method of treatment.

In a paper by Stockman and Charteris, published in the "*Journal of Pathology and Bacteriology*," the following conclusions are arrived at as the result of further observations:

1. In small repeated doses arsenic acts on the bone marrow, causing increase in the number of leucoblastic cells, little or no change in the number of erythroblastic cells, marked hyperemia, and atrophy of fat cells.

2. During this stage there is no increase in the red corpuscles or hemoglobin of the blood.

3. In repeated doses, large enough to cause cachexia and emaciation, the bone marrow undergoes hyaline degeneration.

4. This is accompanied by decrease of the red corpuscles and hemoglobin of the blood.

5. All these changes occur with other drugs and poisons, and are not peculiar to arsenic.

6. Arsenic has no direct effect in increasing the production of red blood corpuscles by the bone marrow.

7. The "hematinic" action of arsenic in pernicious anemia, malaria, lymphadenoma, leukemia, and some other diseases, probably results from a specific action on the parasites which cause these diseases, and not from any direct action on blood formation.

These observations serve to place the whole subject of the treatment of simple anethia by arsenic on a sure foundation. It is a matter on which there is much erroneous teaching, and concerning which the statements contained in many works of Materia Medica are incorrect.

Let us consider next the use of arsenic in various forms of skin diseases. Bazin considers arsenic the best remedial agent in the herpetic diathesis, and particularly recommends arsenious preparations or waters containing arsenic for psoriasis. Gubler believes in the utility of this medicine in certain skin diseases only. Nothnagel says the usefulness of arsenic in scaly skin diseases is beyond doubt, and many other observers confirm this opinion. Arsenic cannot be depended upon in skin diseases of a syphilitic origin. It has been employed in most of the chronic dermatoses, and in many successfully. It does most in eczema and psoriasis; arsenic in these cases is more efficacious than other remedy, but there are cases which are not cured, especially when arsenic has been administered in small doses internally. Frequently a cure is effected, by a joint internal and external treatment. Amelioration is rarely visible before the arsenic has been in use for a fortnight; and weeks or months may elapse before complete recovery takes place. Relapses occur, but they, as a rule, soon yield to treatment.

In eczema arsenic is not so curative as in psoriasis, but it is useful in the chronic forms, which have assumed a thickened or scaly appearance.

When the eczema is acute an increase of the disease is to be feared under arsenical treatment.

In reference to the value of arsenic in eczema, I need only cite the views expressed by Sir Thomas McCall Anderson in his excellent "Practical Treatise" upon that disorder. Various preparations he tells us are available, though he prefers the liquor arsenicalis, not only by reason of its intrinsic value but on the principle that in dealing with a medicine so powerful as arsenic it is well to keep, as far as practicable, to a single form, the compass of which as a therapeutic agent he can then estimate. He also points out that the administration of arsenic is not uncommonly abstained from altogether, or is broken off prematurely when its value is about to be manifested, either the patient or his attendant becoming alarmed as to possible consequences. Although symptoms of a physiological character may arise, such as slight irritation of the

eyes, or puffiness of the face, the true theory of the use of this drug is found in perseverance with it. If these symptoms are at all aggravated, and especially if they are accompanied by pains in the stomach and head, anorexia and nausea, bronchitic irritation, or a feeling of great lassitude and prostration, the dose should be diminished, or in some cases omitted for a few days. There is no need to reject the drug altogether because of alarm on the part of the patient. With some constitutions an amount so small as one minim thrice daily is quite sufficient, while others find no difficulty in taking ten, fifteen or even twenty minims. For children of one and a half to two years old one minim twice daily is enough, though the quantity may be increased should occasion arise; the very young being able to take, proportionately, larger doses of the medicine than adults. Should a mother, with a child at the breast, be troubled with eczema, the child, in a certain measure, would be defended from it by receiving during lactation some of the medicine administered to her. One reason why arsenic sometimes disagrees with patients suffering from eczema is that their digestive system is out of order. It is also very important, while under arsenic treatment, that the patient shall guard himself against taking cold, as the system is, at the time, particularly liable to be thus affected. McCall Anderson says that he has so frequently seen bronchitis developed during an arsenic course as to have no doubt as to the cause of it. In eczema as in other disorders, the best time for the administration of arsenic is almost invariably immediately after meals. In cases where there is intolerance, more or less, it is prudent to add a little cascarilla or calumba or gentian, and if there is a tendency towards diarrhea this may be checked by the administration of a small quantity of morphia. In any case, the medicine should be persevered with, and even for some time after the disappearance of the external signs of the disorder; of course, with the exception of cases in which, after steady trial, it proves to be unsuitable.

My own view of the action of arsenic in skin diseases, and one I have for many years advocated, is that the micro-organisms in the superficial layers sink deeper and deeper into the tissues, so that the toxin they secrete is finally brought under the action of the drug administered internally. This is in accord with practical experience, for we all know that in cases of chronic eczema a white precipitate ointment, or some similar preparation, will often arrest the superficial action, but it is not until arsenic is given, often in large doses, that the disease is really cured. In this expression of opinion I find that I am in agreement with the researches of modern pharmacologists. Many years ago Ringer and Murrell showed, as the result of a series of experiments on frogs, that the epithelial cells soften and shrink, and the skin readily peels off. In an admirable article published some time since in the MEDICAL BRIEF, Dr. David Walsh showed that arsenic was excreted by the skin. It may have a specific action upon the cutaneous epithelium during its excretion, or it may increase the flow of lymph to the part. I am inclined to favor the latter hypothesis that arsenic acts as a lymphagogue. The stimulating action of the drug may sometimes lead to hyperactivity of the skin, as shown by over-growth of the epithelium and the causation of rashes of various kinds.

In phthisis Trousseau found arsenic suspended the course of the disease in a remarkable manner. He gave arsenious acid in doses of one-twenty-fifth to one-quarter of a grain, and required the patient to smoke cigarettes made of paper saturated with a solution of one-half a drachm or a drachm of arsenite of soda, in three drachms of water. Such inhalations may be mischievous unless closely watched. Many French and English physicians have brought forward confirmatory evidence in reference to its value in tuberculosis, but further proofs are required before the question can be said to be definitely decided. It is thought to reduce the temperature in this affection; and Ringer is inclined to believe that it does so, and that it exerts a beneficial effect in arresting the progress of the disease.

In chronic asthma, including emphysema and bronchitis, I have found the internal administration of arsenic in full doses of the greatest possible value. In

acute paroxysmal attacks it is less efficacious than nitre papers, lobelia and iodide of potassium, but in the intervals when the patient is free from dyspnea it is a remedy on which reliance may be placed. How it exerts its beneficial action it is somewhat difficult to explain, but it probably stimulates the cerebral centers and increases their resistive power.

Leube, relying upon the physiological action of arsenic as determined by Saikowsky, employed it in diabetes mellitus, and observed diminution in the quantity of sugar in the urine, and an improvement in the general health. Popoff confirms these results, he also finds a diminution in the quantity of urine and sugar.

It is useful in some diseases of the nervous system.

Eulenburg employed arsenic subcutaneously in the form of a mixture of one part of Fowler's solution with two parts of water. He injected one-third to one-half of a Pravaz syringe, equal to two or three minims of Fowler's solution. His patients suffered from paralysis agitans, and some showed other paralytic symptoms of the same character. In almost every case there was visible amelioration.

In epilepsy arsenic has also been tried, and some authors state successfully; if so, it must have been in cases of epilepsy of malarial origin. Billroth gave arsenic in the case of a woman aged forty, who had swollen glands throughout the body; he states that they were particularly enlarged in the neck, the axilla, the thighs and at the elbow. The spleen also was larger than usual. He administered Fowler's solution in increasing doses to twenty minims twice a day, and then reduced the doses to five minims. The recovery was complete. This observation is of interest, although the exact pathological condition is not clearly indicated.

Decamp recommended arsenic for retching and vomiting during gestation. I can add my testimony to its good effects, especially when ipecacuanha and other drugs fail.

The internal administration of arsenic in chronic rheumatic arthritis sometimes proves successful, but its action is capricious. The stiffened and enlarged joints become reduced to their natural size, and regain their elasticity. The medicine, however, must be given in large doses for a considerable time. I agree with Bardsley that in protracted cases where the vital powers are much lowered and the ends of the bones, periosteum, capsules and ligaments of the joints are affected, arsenic is valuable.

As an external application for warts arsenic was recommended by Erasmus Wilson, the form employed being Fowler's solution.

Arsenic is of great service in the treatment of intermittent fever. Under certain conditions it is superior to quinine, the only drug to which arsenic is a rival. The exact conditions under which the superiority of arsenic to quinine, or the reverse is evinced, have not been thoroughly cleared up, but the following considerations may prove of service:

1. Arsenic is the most valuable remedy we possess in the intermittents which have resisted quinine.

2. Recent cases of intermittents are cured by arsenic when quinine has failed, though, as a rule, quinine is its superior.

3. In old and inveterate cases of intermittent fever, arsenic is more efficacious than quinine. It is particularly useful in those obstinate and long-standing cases of quartans, where quinine has had a prolonged trial without result.

4. Arsenic has been warmly recommended by Isnard as superior to quinine in malarious cachexia, a rare disorder, except in malarious districts. Arsenic will not supersede quinine as a remedy for periodical fevers, as the latter possesses a wider therapeutic range over the intermittents, especially those which constitute the malarious fevers of warm climates.

5. Arsenic is unsafe, and should not be resorted to in the treatment of the malignant forms of intermittent fever. Arsenic was employed for the cure of intermittent fever by Dioscorides, Galen, and other ancient physicians, and their example has been followed by succeeding generations. It was only a popular and empirical remedy until the time of Boudin, Girbal and other French army surgeons, by whom it was established, on scientific grounds, as one of the best remedies in intermittents.

6. Under arsenic treatment the single paroxysms of intermittents, especially

those of the milder kind, disappear more quickly than under quinine, but recovery comes slowly and relapses are more frequent under arsenic than under quinine. Quinine often effects a cure when arsenic gives only temporary relief. Mild cases generally get well without any specific, especially if the patients are removed into healthier localities, and are supplied with more nutritious diet.

7. Arsenic is contra-indicated in pernicious fevers. Here it is only allowable when quinine has been employed without success.

8. Arsenic is cheaper than quinine, a circumstance which may sometimes recommend it for army use.

9. Arsenic should never be given on an empty stomach, but always after meals.

10. Doses of arsenious acid varying from one one-hundredth to one-fifth of a grain have brought on symptoms of poisoning, such as pain in the stomach, vomiting and colic, so that its action must be carefully watched.

The united testimony of many independent observers is in favor of arsenic being awarded a chief place in the treatment of neuralgia, especially when referable to malarious intoxication, and when it comes on in periodical attacks. If the neuralgia be of recent date the attacks are usually overcome more quickly by quinine, but if old and inveterate the arsenic treatment is much more effective. Arsenic is also quite as valuable in cases of recent neuralgia which quinine has failed to conquer. Isnaid makes use of arsenic with great success, not only from the commencement of recent typical neuralgias, but in those of ordinary neuralgia, in which arsenic has frequently answered well, particularly when the cases have been old and obstinate.

Romberg states that arsenic is particularly useful in cases where uterine or ovarian disease is at the bottom of the neuralgia, the more so if the patient be anemic, while in plethoric patients arsenic sometimes does harm.

The intermittent form of neuralgia is that to which arsenic is peculiarly adapted as a curative agent. Great hopes may be entertained of a cure being effected in cases that have resisted quinine. Fowler considers arsenic an efficient remedy in those cases of neuralgia which have a malarial origin. Anstie speaks highly of the value of arsenic in different forms of neuralgia, and mentions it as especially useful in the internal neuralgia which simulates one of the varieties of angina pectoris. He states that it will lessen the severity of the attacks, reducing them in course of time to mere tightness of the chest. The dose of arsenic in cases of neuralgia should vary from one to ten minims of the liquor arsenicalis, two or three times a day, and should be persevered with until some of the toxic effects show themselves. The drug should then be discontinued until these pass off, when, if necessary, the medicine may be resumed.

In old and obstinate cases of chorea arsenic has been found an excellent remedy. In recent cases, however, it is not so commonly given since these frequently improve simply by rest in bed and appropriate diet. Success with arsenic in the treatment of chorea, is not to be depended upon as absolutely certain; nor can the conditions under which arsenic is beneficial, be accurately defined. It must be observed that juvenility is not a contra-indication. It may here be affirmed with certainty that chorea is an affection more amenable to arsenic than any other remedy. Romberg thinks it foremost among curative agents, able to arrest the disease in a short time, and employs Fowler's solution.

Scrofulous ophthalmia is another disease which often yields rapidly to a short course of arsenic. The redness of the margins of the eyelids disappears, as do the swelling and agglutination. The discharge of acrid tears, the sensitiveness to light, and the inflammation of the conjunctiva abate. The ulcer of the cornea, which so commonly accompanies this disorder is healed and it puts a stop to lymph exudations, which are so frequent.

In some forms of cancer arsenic may prove useful. The medicine may both be given internally and applied externally in the form of lotion or paste. That it exerts a very powerful modifying influence over cancerous ulcerations of various parts, and that it frequently affords well-marked relief, there can be no dispute. Epithelial cancer of the lip and face, and

also of the tongue have been cured by means of arsenic. That it gives genuine help in cases of cancer of the stomach, and in cancer of the breast and uterus, may be confidently declared.

Arsenic is unquestionably of great service in chronic gastro-enteritis, the value being most evident when symptoms such as the following make their appearance: Irritation of the stomach, which ejects the food soon after it has been swallowed; pain and sense of oppression at the epigastrium, with flatulence and distention of the bowels, and usually the accompaniment of constipation or of diarrhea, these diarrheic stools are yellow, slimy, and perhaps purulent, and there is more or less tenesmus. The patient loses flesh, and suffers from dull pains in the head. The tongue is furred, white or yellow, and the edges are red and irritable. The mouth and throat are dry, and the thirst is considerable. To improve this state of things the liquor arsenicalis is competent if administered in one drop doses, twice or thrice daily.

Not only in chronic inflammation but in ulceration of the mucous membrane of the stomach I have seen beneficial action on the part of arsenic. Under the influence of this medicine the progressive debility and emaciation are frequently brought to an end; the appetite returns; the thirst disappears; the vomiting of blood commingled with thick, viscid, and glairy fluid, ceases entirely and the pain subsides. In a short period the patient grows strong and gains weight. The arsenic should be administered in the form of liquor arsenicalis, a drop-dose thrice daily after each meal.

Arsenic is useful in chronic gastric catarrh. When the symptoms which the patient presents are oppression and discomfort after eating, with a sensation of weakness and emptiness at the pit of the stomach, great thirst, offensive breath; white, yellow or red tongue, the tip and the edges at the same time red and irritable; flatulent eructations; pyrosis, vomiting of a glairy fluid after meals or early in the morning; coldness of the extremities, and emaciation. In this disorder arsenic is a medicine of singular value. When chronic gastritis co-exists with emphysema or with chronic bronchitis, or with phthisis, arsenic always gives relief to each.

Arsenic is useful in many forms of diarrhea. To discuss the various modes of treating cholera is not my intention. In simple English cholera restricting the patient to a farinaceous diet, and the entire exclusion of solid food will generally suffice to bring about recovery. Should the attack be of an obstinate character then, while still observing the rules as to diet, a dose of five minims of the spiritus camphoræ, given in water two to four hours, may be relied upon. In cases of choleraic diarrhea I give the preference to spirits of camphor, or to opium, the best preparation of which taken for the present purpose being Dover's powder in doses of two or three grains, repeated every two to four hours, according to circumstances. Should these remedies prove inefficient, I resort to arsenic, administering one or two minims every two to three hours. The symptoms to which this treatment applies may be thus described: There is considerable nausea, with retching and vomiting of mucus, bile and blood; purging in the form of watery stools, which are often whitish and odorless; the motions are flocculent and slimy, and often marked by blood; there is burning pain in the stomach and bowels; tenderness of the abdomen upon pressure, with tympanites, tenesmus and faintness. The tongue is covered with a thick yellow fur; there is thirst; the mouth and throat are parched, and swallowing the smallest quantity of food excites vomiting. The respiration is quickened; the features become pinched and sunken, and the countenance wears an anxious expression, the pulse is frequent, small and irregular; cold sweats, with painful cramps of the extremities are attendants with spasmodic contractions of the muscles, especially those of the calves of the legs; the surface of the body acquires a bluish tinge, and the secretion of urine becomes scanty, or nearly suppressed. The preparation used under these circumstances is the liquor arsenicalis, the dose being one minim in arrowroot water every one or two hours. The stage of the disease in which this treatment proves most effectual is that marked by collapse. Convalescence is generally slow.

In cholera infantum, drop doses of the liquor arsenicalis have a truly excellent result. While suffering from the complaint the child looks pale and emaciated; it has little desire for food, the motions are brown and offensive, and have an admixture of blood, there is also usually tenesmus, especially if there be edema of the face or of the extremities.

These are but a few of the indications for the use of arsenic, and I have been at some pains to indicate the symptom groups in which the most trustworthy results are obtained. I have not dealt with the bacteriology of the subject, nor have I trespassed on the domain of hematology. The investigation of the physiological and pathological laboratory are of the greatest possible value to the physician, but it must be remembered that it is not always that he has these accessories at his disposal. In the absence of adventitious aids he must rely on his own practical knowledge, a department of the science of medicine too often neglected.

[Written for the MEDICAL BRIEF.]

Gold and Its Therapeutic Uses.

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Gold can hardly be regarded as a therapeutical agent of the first rank, but it has a distinctive sphere of action which renders it useful. For some ill-defined reason its employment seems to have drifted into the hands of the charlatan and the empiric. This is to be much regretted, for it has a well-defined pharmacological action which differes from that of any other drug. If we take syphilis alone we find distinct indications for its employment. Mercury is undoubtedly the remedy for the early and active stages of the disease, but there are many syphilitics who early become satiated with the drug, and on whom it exerts a prejudicial rather than a beneficial effect. There is no other medicinal remedy to take its place with the exception of gold, and on these grounds, if on no other, Aurum, with its preparations, has a distinct claim on our consideration. In many chronic nervous diseases it is undoubtedly useful, acting probably as a nervine tone and stimulating the action of the cells of the brain and cord in a manner which is sufficiently apparent even if the mode of influence cannot always be demonstrated by instrumental records. Many physicians seem to be debarred from prescribing gold by the idea that the remedy must be an expensive one, but when the smallness of the dose actually employed is realized it will be abundantly clear that the objection is absolutely devoid of foundation.

Gold is distinguished from all other metals by its rich yellow color, great density—the sp. gr. being 19.5—and preeminent malleability. It may be beaten into leaves so thin that 282,000 are required to give the thickness of an inch. Gold is also characterized by its insolubility in any acid except a mixture of hydro-chloric and nitric, by the alchemists named "aqua regia." The fusing point has been estimated to be 2016° F. In the liquid state it presents a brilliant greenish color, which is observable also on placing a film of gold-leaf between two slips of glass, and holding it to the light.

Gold occurs in nearly every part of the world, and is most commonly met with in the sands of plains and rivers belonging, as a rule, more to alluvial grounds than to rocks, in which it is never so plentiful as to constitute veins. The most usual form is that of gold-dust or nuggets. The metal is separated by simple washing, or by means of mercury, which is afterwards driven off by heat. While aluminium, calcium, and many other metals exist only in combination with oxygen, gold occurs exclusively in the absolute metallic form, though often alloyed with silver, copper and iron.

Gold, standing alone, is less easily oxidized than any other metal, the affinity for oxygen being very slight. It allows of being oxidized when combined with bodies already in that condition, yielding a protoxide, which is a green powder and a peroxide, which is black or dark brown. Gold also combines with chlorine and iodine. The test solution of the terchloride is made by dissolving gold in nitro-hydrochloric acid, then evaporating to dryness and re-dissolving the resultant terchloride in distilled water. This pre-

paration is employed as a test for atropine, etc.

The curative properties of gold have been doubted by many on the ground of the supposed insolubility of this metal in the gastric juice. This objection is overthrown by the fact that many other drugs appear to be equally insoluble, chemically, in the gastric juice, yet are known to be powerful medicinal agents. Gold, like many other substances, can be rendered soluble through trituration, which destroys the cohesion of the constitutent particles.

The influence of pure gold upon the human subject, physiological and therapeutic, has not yet been well defined. It is said to act in many ways, like mercury, especially so in syphilitic affections. Geber so far back as the eighth century, speaks of gold as "a material which cheers up the mind, and preserves the youthfulness of the body." Aricluna, at the beginning of the eleventh century, says that "pulverized gold is one of the medicines against melancholy; it removes fetid breath, strengthens the eyes, is good for cardialgia and for palpitation of the heart, and is eminently useful in dyspnea." Knowing so little as we do, of the actual therapeutic value of the once famous Pulvis Auri, it is not surprising that the use of it as an internal medicine was almost abandoned. In dentistry gold-leaf is extensively employed for filling teeth; and druggists use it for covering pills. The tetra chloride has a caustic action, and like many other preparations of gold, possesses the power of staining the skin yellow, the color afterwards changing to violet or black.

When a salt of gold is given in small doses it is said to increase the appetite and digestion, to cause copious sweats, particularly nocturnal ones, and to augment all the secretions, markedly increasing the flow of urine. In women the salts of gold stimulate the catamenia, and in men they quicken the sexual instincts, often inducing painful priapism; they also excite the functions of the brain to a high degree. After taking gold for two or three weeks, fever, headache and irritation of the stomach and bowels supervene, sometimes with periostitis or glandular enlargements. Among the more remote effects, ptyalism is more particularly noticeable. When it appears it is said to be distinguished from the ptyalism induced by mercury, by its later appearance and by the absence of stomatitis and gingivitis. Martini states that ptyalism arises only after the long-continued use of small doses of gold, and that the tetra-chloride of gold and sodium may be taken for months together without doing harm. In one instance ptyalism did not come on until after the patient had taken a third of an ounce of the tetra-chloride of gold and sodium.

Experiments upon animals, with small doses of the tetra-chloride, were made on a limited scale by Rabuteau. He found that rats died in about a fortnight from the effects of about fifteen grains gradually administered in the food. Prior to death there was loss of appetite, and the animal suffered from convulsive twitchings of the body. The post-mortem disclosed a yellow coloring of the mucous membrane of the stomach and of the small intestines; the epithelia had sharper outlines, and the axis-cylinders were green. Large doses of this salt may cause gastritis and death.

Elimination occurs through the liver and intestinal canal, especially the lower bowel, but is slow; the feces are colored dark brown from combination with sulphur. After large doses some passes in the urine which is colored yellow. Rabuteau maintains that the elimination of gold is never complete, some of the metal being reduced and deposited, especially in the epithelial and nerve tissues; he considers that this deposition of the metal explains why gold seems more active than mercury, for having nearly the same atomic weight and specific heat, their properties should (according to the analogies of other substances as observed by him), be also similar, were it not that the gold is less completely eliminated; but though mercury may, as a rule, be more readily eliminated than gold, yet it has also often been found deposited in the bone, the liver and other parts of the body long after its administration.

The use of gold in medicine, in the form of "pulvis auri," is of considerable antiquity. For a time it was abandoned, and by many gold is still considered inert, but it is likely to become a very import-

ant agent in therapeutics, and attention is daily getting more drawn towards it. The revival is, to some extent, due to Chrestien, Gozzi and Lallemand, who more particularly employed it in syphilis and skin diseases, and to Martini, who found it serviceable in affections of the uterus. Becker, of Muhlhausen, recommends it very strongly, though his statements in regard to its effects upon tumors and new growths appear to be inconclusive.

The preparation chiefly resorted to is the chloride of gold and sodium, which bears somewhat the same relation to the absolute metal that corrosive sublimate does to mercury. The action upon the lymphatic system is said to be much the same as that of mercury. As the elimination of gold from the system is much slower than that of mercury, we should be cautious in the administration, the more so since an authority so high as Rabuteau believes that when once absorbed, it is never eliminated.

In syphilis and syphilitic inflammations of internal organs, gold has been particularly recommended. Condylomata of the anus and of the prepuce have yielded to the local application of the unguentum auri. Chancres, in their primary stage, have also given way before this ointment. It has sometimes proved valuable with old-standing constitutional syphilis, where the system has been saturated with mercury, and where there has been chronic periostitis. I have seen chronic syphilitic periostitis yield to small doses of the chloride or bromide when the usual remedies had failed. The utility of the medicine is, nevertheless, uncertain, and in some cases the action is positively injurious.

Preparations of gold have been resorted to in various other diseases, such as scrofulous glandular swellings, carcinoma, chlorosis, rheumatism, phthisis, cholera, and nervous affections, but in these disorders no reliable result has been obtained. This is especially true of carcinoma and other tumors. Becker and Percy state that under the influence of gold carcinomatous and other tumors may become painful and ulcerate.

There are various preparations of gold; some old and some new. The gold and sodium chloride, auri et sodii chloridi ($Au\ Cl_3 + Na\ Cl$) is the salt most commonly employed. It is an orange-yellow, crystalline, deliquescent powder, soluble in twice its weight of water, and only partially soluble in alcohol. It is a double salt containing 49.6% of gold. The dose is from one-thirtieth to one-twelfth of a grain, increased, if necessary, to one-half grain.

It may be given in solutions or in pill. It is often combined with nux vomica or with hydrochlorate of strychnine.

The bromide, auri bromidum, is a dark brown non-deliquescent powder soluble in water. It is given in doses of one-sixtieth grain, increased to one-fifth of a grain, either in pill or in water well diluted. It is less frequently given than the chloride, but is a reliable salt.

The old "pulvis auri" is now very little used. It may be made into pills with confection of roses and given in doses of one-quarter to one-half grain.

Another almost equally antiquated preparation is the unguentum auri, made by rubbing up one part of powdered gold with fifteen of prepared lard. It is somewhat on the lines of the ointment of mercury, and is employed in a similar manner, that is, by inunction.

As already stated gold is not a remedy of the first class, but in obstinate cases of syphilis, especially those contracted in India or in Egypt or Algeria, it has its uses. The scope of its therapeutical action is distinctly limited, but like sarsaparilla, and many other old-fashioned drugs which have fallen into disrepute, it may be found useful in some unusual or out-of-the-way case in which more modern drugs have failed to effect a cure.

Dr. Bransford Lewis, President.

The American Urological Association, at its recent meeting in Boston, did St. Louis the honor of electing Dr. Bransford Lewis its president. Dr. Hugh Cabot was re-elected secretary, and Dr. F. R. Hagner, of Washington City, treasurer.

This association, while of only recent development, has had marked success in its growth and make-up. Its membership embraces well-known workers in genito-urinary lines from Maine to California, and from Canada to the Gulf.

[Written for the MEDICAL BRIEF.]

The Post-Graduate Advantages of Vienna.

BY EDWARD LUCAS HUGHES, M. R. C. S., (ENG.), L. R. C. P., (LOND.).

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Vienna is one of the very few medical centers, if it is not the only one in Europe, where Americans and Englishmen can pursue special studies at the large general hospital without any knowledge of the language of the country. In Paris it is an absolute necessity to know French. In Berlin the knowledge of German is a *sine qua non*, and I know of no other town or university on the continent where there are facilities for study without a very intimate acquaintance with the language. Good as the medical teaching of Berlin and Paris is, in neither of these cities has there been any attempt to systematize courses of lectures and practical classes for the American and English doctors who come there. The courses held in English in Vienna are all of a practical nature, but they are limited to the special subjects of eye, ear, nose and throat, and dermatology; to study other medical subjects, even in Vienna, a man must know German. If he knows German he can, in addition, attend a great variety of courses, such as pathology, bacteriology, internal medicine and general surgery and pediatrics. There is excellent tuition in bacteriology and the principles of immunity (antitoxines, cystotoxines, agglutinines, precipitines, sero-diagnosis) and forensic blood examinations. All these things are extremely good, but they are not held in English. A place in the laboratories to do original work, can be had by consulting the professor in charge of the particular laboratory where the work is proposed to be done.

There is no doubt that Vienna ranks high for medical teaching, and compares favorably with Berlin, London and Paris. As to the students of the university. They have to work very hard. The examinations are all made extremely stiff for them. They have to be five years at the university before spending two years in the holding of clinical appointments at the "Krankenhaus," and the man who gets his M. D. Vienna, may be said to well deserve his position in society. The value, however, of Vienna's excellent undergraduate department is somewhat diminished by extreme over-crowding; much depends upon the undergraduate himself, and there is no royal road in Vienna, nor anywhere else. I have said enough to show that the post-graduate facilities are good, and speaking generally, manifestly better for a man who knows the language.

There are a great number of "Kliniks" at the Krankenhaus, each presided over by one of the professors, and it is according to the excellence of the professor that the "klinik" competes with or excels the others. The best professor has the best assistants, and the assistants and students all strive to work up to him and copy him in everything, even to the cut of his hair and his personal appearance. I have noticed, however, some of the chief assistants daring to differ from their beloved professor in minor details, and showing originality and individuality which sometimes outshines the greatness of the great professor; decided improvements in methods of operating, new methods of treatment are among the points of teaching of these excellent assistants who will some day be Vienna's professors themselves. The best "kliniks" for general surgery are those of Eiselberg and Hochenegz. These two surgeons are good operators, and their assistants follow closely upon their footsteps. The best teaching of general medicine is to be obtained in the Neusser Klinik, and of surgery in the above-mentioned Eiselberg and Hochenegz kliniks. For medicine, the Von Noorden klinik, Koracs and Ortner's divisions are exceedingly good. For the ear, Politzer's klinik is the best. For the nose and throat, Doz Hajik, Doz Koschier Poliklinik, Chian klinik. For the skin, Finger klinik, Rahl klinik and the Lang klinik. There are classes held on the Röntgen rays and radium therapy.

Vienna is a good place for a man who knows German to learn children's diseases. The best kliniks are the Klinik Escherick and that of St. Ann's Children's Hospital.

Vienna is very good, indeed, for pathological work generally.

Owing to the excellence of Professors Fuchs and Schnabel, Vienna holds a world-wide reputation, and, indeed, a place second to none for ophthalmological teaching. The two chief assistants are Dr. Josef Meller and Dr. Hanke in Fuch's klinik, and the chief of Schnabel's is Dr. Lauber. These men, as well as several others, hold courses in English on ophthalmic subjects, such as ophthalmoscopy, external diseases of the eye, the pathology of the eye, including bacteriology and practical work, "muscle classes" upon the disturbances of motility of the eye, squint, etc., and last but most important of all, operation classes—"the typical and atypical operations of the eye." These last are given with the human cadaver; a head is cut off and fixed at the proper angle upon a block and brought to the room where the class is held; it is perfectly fresh, and the globe operations are done first, such as cataract extraction, then operations upon the adnexa, the lids and plastic operations. Pig's eyes are occasionally used for practicing discission, linear extraction and posterior sclerotomy. Each operation class is limited to five men who, in turns, do the operations under the teacher's eye, the steps of the operation having been made perfectly clear to them. I had the good fortune to be one of Dr. Josef Meller's class.

Owing to the popularity of Vienna with American doctors, and the large number who have prolonged their stay in the city, an American medical society has been formed. The society has now been in existence a little over two years, and under its able staff of officers has greatly prospered. It has a president, vice-president, executive committee and an orientation committee. Each member of this latter has to look after his particular department. There is one member of this orientation committee for the classes of general medicine, another for those of surgery and gynecology, another for pathology, another for the eye, and so on. The society assumes the responsibility of keeping the classes full for the professors and their assistants, and not only does everything in the interest of him who holds the class, but also in the interest of the members of any given class, and those who propose to become members of a class. The classes are limited to five men for operative work, eight for ophthalmoscopy, and ten for external eye diseases. Each consists of twenty hours, an hour every day, except the bacteriology and eye muscle class, which is finished sooner.

Before the medical society took matters in hand the fees for the respective courses were higher then they are now. Now they are well within reasonable limits—fifty or sixty kronens (ten or twelve dollars), according to the subject. An operation class is more, about one hundred kronen (twenty-one dollars), as the material has to be paid for.

Those who are spending any time in Vienna ought to become members of the medical society, for which there is the modest demand of two kronens (fifty cents). This entitles to life membership. New arrivals are asked to register their names in the general registration book, kept for that purpose at the Cafe Klinik at the corner of Lazarus and Spitalgasse. If courses in internal medicine and pathology are desired they should also register their names in the books provided for that purpose at the Pension Welsher, *IX Höfergasse No. 5. There are a number of excellent pensions near the Krakenhaus. I found the Pension Columbia VIII Kochgasse, No. 9, most comfortable. The Krankenhaus is in the Alser strasse, and the university close to it in the Universitat strasse; the one street being a continuation of the other. Both blocks of buildings cover an enormous area.

The American Medical Association of Vienna was established as a result of action taken at the Thanksgiving Day banquet of the American physicians, November 28, 1903. At this banquet Dr. Ravold of St. Louis, in responding to a toast, dwelt at length on the need for such a society, and proposed a motion, which was carried, that a committee of organization be appointed. This committee called a meeting of all English-speaking physicians at the Hotel Hammerand, February 6, 1904, and at this meeting the association was founded. Dr. Ravold was elected the first president, and Dr. F. G. Harris, of Chica-

*The roman numeral refers to the division of the city.

go, secretary and treasurer. The association promotes the social intercourse of its members, furnishes all necessary information for new-comers, and provides information in regard to the scope and value of the courses. Meetings are held once a fortnight, and a paper is given by some prominent physician, either in English or German.

One great characteristic about the Vienna medical teaching at the Krankenhaus is its thoroughness, and the close attention given to important and often minute details. In no department of medicine is this of more importance than in the study of ophthalmology. The close examination of the cornea with a powerful achromatic lens, called a "loupe," consisting of one or two specially constructed lenses in a metal case, enables us to see all the minute detail of various cases of keratitis and irido-cyclitis. Without this attention to detail the facility with which a case of eye disease may be labeled with a name, approximately correct, is likely to lead a man into making grievous mistakes. It is the little things that tell in eye work. It is easy to speak conventionally of a case as one of iritis, and, broadly speaking, the term does very well for most cases of inflammation of the anterior part of the uvea, but the prognosis and treatment depend upon how much the ciliary body is involved in the inflammatory process. It is easy to see that a patient has a corneal ulcer, but the important question is to determine the nature of the corneal ulcer. It may be due to a fascicular keratitis, which will advance to the center of the pupil and destroy vision, or, perhaps, it is a phlyctenular ulcer, the keratitis eczematosa which remains stationary near the margin of the cornea. The difference between these varieties is shown in the Klinik Fuchs. We may be, however, dealing with the dangerous disc-shaped ulcus serpens, which will destroy the whole cornea in a few hours unless something is immediately done. The class on external diseases of the eye are shown patient after patient, and taught to observe closely in this manner; each member of the class in turn examines each case, the first one being asked to state all he can about a patient, and give his diagnosis and treatment. Supposing a man has a case of ulcus serpens before him. He is asked whether he would make the incision of Semisch or whether he would cauterize; how these two procedures should be done and what should be avoided in doing them.. Fine brownish deposits, as all oculists know, upon the posterior surface of Descemet's membrane, are conclusive evidence of an irido-cyclitis; they come from the ciliary body as an exudate, and are conglomerations of cells which, at first, are suspended in the aqueous humor, but the movements of the eye carry them by virtue of centrifugal force through the pupil into the anterior chamber against the posterior surface of the cornea, where they adhere. These deposits are shown to be altogether different from those cases where there are minute infiltrations in the deeper layers of the cornea. The term, "k. p.," is wrongly applied by oculists to these deposits; the true "k. p." (keratitis punctata), is the infiltration in the corneal substance, and the deposition on Descemet's membrane is not a keratitis at all, but an absolutely pathonomonic sign of cyclitis. Indeed, it is the rule to find Descemet's membrane and the corneal substance immediately underneath and adjacent to these deposits perfectly healthy, the most seen upon histological examination are a few absent endothelial cells, due to the pressure mechanically exercised by these conglomerate masses. Under no circumstances is it more important to be on the "*qui vive*" so as to recognize these minute deposits than when we are confronted with a case of sympathetic ophthalmia. You may get this happening when the other eye is perfectly quiet; the onset of it may be overlooked unless these deposits are discovered, and the disease may occur years after the original injury, whatever that injury may have been.

A large number of ocular injuries are dealt with throughout the year in the Klinik Fuchs. I have seen large pieces of steel extracted from the vitreous by means of the giant magnet. Sometimes to get these out one must make a posterior sclerotomy, sometimes an iridectomy is sufficient in cases when the foreign body is near the zonula of zinn. Sometimes one is able to use the smaller magnet; that of Hirchberg, but a cutting operation must be done

in these cases, and the point of the magnet introduced. The foreign body can be localized by means of the X-rays, or by the sideroscope; sometimes it can be seen in the vitreous, and ever accurately localized with the ophthalmoscope. If fortunate you may be able to exactly cut down on the spot and extract it with forceps, or it may come away with an escape of the vitreous. However, in nearly all these cases, even after the foreign body has been extracted, we must expect the eye to be lost, and an enucleation has to be done after all. In all cases where the foreign body cannot be extracted an enucleation must be done. If the "f. b." has remained in the eyeball any length of time, and an irido-cyclitis is set up, its removal will not save the eye or avert the onset of sympathetic ophthalmia in the other eye, therefore, the outlay of four hundred or five hundred dollars in the purchase of a magnet is hardly to be recommended for private surgeons. Sometimes a foreign body is in the iris, and an iridectomy can be made, taking away with the piece of iris the "f. b." fastened to it. Of course, many of the "f. b.'s" are not steel, and, therefore, not suitable for the magnet; some are copper, some glass, stone, or splinters of wood. Even corneal foreign bodies may become serious if not removed at once and skillfully treated, for there is the danger of infection. As soon as plastic irido-cyclitis sets in, immediate enucleation is imperative. Children are often brought to the klinik who have had scissors poked into their eyes. This is more common than penknives with young children and little girls. They get in the way of their mothers and sisters at work, and are unnoticed, and a sudden backward movement of the hand does the mischief. I saw a case of this kind where the blade of a pair of scissors had entered at the limbus, made a large hole through the iris and perforated the lens. This latter had become completely absorbed so that the eye was aphakic, a sort of accidental discission having taken place. The large hole in the iris formed a sort of incomplete coloboma, or second pupil. The cornea was perfectly clear except quite at its outer margin where the scissor blade had entered. To put a lens before this eye would be a great mistake; the second pupil would cause monocular diplopia, the two eyes could not act together, and it is, therefore, far better to permit nature to bring about amblyopia exanopsia. As regards accidental operations on the eye I am reminded of a story told by Fuchs which is given in his book. From time to time Hungarian farmers come to the klinik who have been gored in the eye by cows. It seems that the men do most of the milking in Austria and Hungary. Nearly all these eyes are destroyed through rupture of the sclera, but one day a man turned up who had both eyes aphakic, and two large colobomas with scars of the sclera, both in relatively the same position of the eye. His vision was perfect with the use of cataract glasses, as the retina was all perfectly healthy and the media absolutely clear. The history was that he had been gored in the eye by a cow, and that some years after the same accident had occurred in the other eye; both accidents had produced the same result. Everything, as if a double cataract extraction had been successfully performed, and with a result far better than that of some operators. This story should be an encouragement to timid operators, for, if a cow can operate so successfully, why despair?

Vienna is a good place for learning to diagnose between iritis and glaucoma. We see a large number of such cases. The differential diagnosis is often difficult. Men sometimes get into a wrong way of determining tension; they press too much directly backwards simply pressing the globe against the orbital fat. This is bad. The proper way is to make the patient look down and press sideways with both fingers separated as you would for an abscess. It is best to keep one finger perfectly still, and press the eyeball somewhat against it with the other.

Every year cases of "spring catarrh" turns up at the klinik. These are stock cases, and are shown to the classes. They get their disease when the warm weather sets in after the wintry weather. Sometimes this is in the spring, but it happens sometimes in the summer after a cold spring, and occasionally an attack occurs in the autumn. I saw two such cases, one in the "Clinique Panas," in Paris, and one at Vienna. The Paris case

presented very strongly the ring of swollen tissue round the cornea at the limbus, something the shape of a life-buoy, and called by the French "bourrelet." The case in Vienna markedly showed the pavement-like granulations of the palpebral conjunctiva, too flat to be mistaken for trachoma granulations, and only faintly indicating the "bourrelet." The Paris case only faintly showed the pavement appearance. The conjunctiva of both cases had the milky appearance. If a man thinks he can learn his refraction work on the Continent of Europe he will be greatly disappointed. There are no places better than Moorfields and the Westminster Ophthalmic under Hartridge for refraction work, but for general experience of eye diseases Paris and Vienna can not be beaten.

[Written for the MEDICAL BRIEF.]

Amoebic Infection of the Rectum.

BY E. O. WITHERSPOON, M. D.,
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Amoebic infection is rather a rare condition in this country, still the number of cases is growing, due to the infection spreading as a result of the return of our soldiers from our new Spanish possessions. For this reason I think it well enough to call the attention of the general practitioner to this condition, because I believe it is very frequently overlooked or wrongly diagnosed when the patient calls for treatment for diarrhea. It has been my fortune to see a few cases of this condition, some of the later ones of which have progressed very nicely, and seem to have been promptly cured after undergoing a course of treatment, but I must honestly say that some of the first cases observed, whether due to the fact of improper treatment—or to ignorance of the condition—did not progress so satisfactorily.

The disease is propagated through food and drink which has been contaminated by a previous case. Infection of the rectum results, as does the infection of other parts of the intestine. The bacilli lodging in that part of the rectum where there is a denuded surface of mucous membrane.

The pathological changes in the rectum begin with a light linear ulceration of the mucosa resembling a zigzag line drawn with the fine point of a pencil over paper. These lines radiate from each other, multiplying in the course of the disease until they form a stellate appearance. The submucous tissue ulcerates more rapidly than does the mucous membrane itself, furnishing the appearance of a trough or gutter. These submucous ulcerations gradually increase until they coalesce, destroying the mucous membrane at this point and leaving an irregular ulcer. These ulcers may be single or multiple, in fact, they vary from one ulcer to the occupation of a very large area of the rectum.

The physiological and functional changes will be: First, a diarrhea varying at first from a thin watery discharge, to, after infection, mucus mixed with pus and blood, due to pathogenic infection of the ulcer or ulcers with bacteria other than the amoeba. The number of discharges varying from ten to thirty or thirty-five a day.

The general constitutional changes will be those due to any exhausting disease. The general symptoms will be those of diarrhea, excessive number of stools, loss of appetite, reduction of flesh, indigestion, itching of the pelvis and about the anus, burning and heat in the rectum, tenesmus and exhaustion. The temperature may be raised or may be normal, pulse slightly increased, tympanites; the diarrhea is exceedingly painful.

Treatment.—The treatment should be general and local. General treatment should be the administration of intestinal antiseptics after flushing the intestines well with salts; this flushing should be done every day. Restrictions should be placed about the patient's diet, allowing no fermentative foods nor foods toward which the patient has any idiosyncrasy.

The local treatment should be relied on, more particularly the irrigations, bichloride of mercury, one to five or six thousand in large quantities, being certain that all the water is returned; nitrate of silver, permanganate of potash, local application of ammonium sulpho ichthiolate and glycerine.

The complication to be watched for is perforation of the intestine, this, however,

never occurs if the case is properly treated. However, when it does occur abdominal operation should be resorted to. This condition affects not only the rectum but is frequently found in the colon as well. And the treatment applicable to the rectum is also applicable to the colon. If it should become necessary an artificial anus can be made in the right side and the entire colon below the artificial anus be put entirely at rest and treated by flushing through the opening made.

Second and Chestnut Streets.

[Written for the MEDICAL BRIEF.]

Puerperal Fever.

BY T. M. CULVER, M. D.,

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What is puerperal fever? The early writers regarded every form of fever occurring at childbirth as puerperal, and hence their views were extremely vague. We are told at one time that puerperal fever is an essential of specific disease. At another time that it is a local inflammation of a sthenic or active grade. Again it is maintained that phlegmasia is asthenic assuming at its very inception a well-defined type. In the opinion of some it was in close alliance with hospital gangrene, while others contend that it partakes more or less of erysipelatous inflammation. Simple peritonitis or metritis, purely accidental, and if you choose, sporadic, totally unassociated with epidemic or typhoid fevers, liable to occur from cold or any other ordinary agency have often been regarded as the very type of puerperal fever which is entirely a pathological derangement. The early writers failed to understand that both the pregnant and non-pregnant and parturient may be attacked with peritonitis or metritis precisely as the male may be invaded with pure inflammation of the peritoneum. In this form of peritoneal inflammation we need not seek for a specific or a mysterious something which has produced the affection, but it is vastly different when pure puerperal fever prevails —a fever usually characterized by depression of the vital forces and exhibiting many of the phenomena of a typhoid affection.

By puerperal fever, puerperal sepsis or child-bed fever is meant that series complex of symptoms arising from an introduction into the system of the puerperal woman of septic germs and their ptomaines, and consisting in alterations in the temperature and pulse rate, profound physical depression, and marked vulvar, vaginal and pelvic manifestations.

For the development of this diease there is required a specific virus, a means of entrance for this virus into the system, and a certain constitutional condition that will favor the development of the disease, when the first two factors are present. The specific virus may be anyone of a large number of pathogenic microbes that have from time to time been discovered during the examination of various puerperal women. The most common, however, is the streptococcus pyogenic. Whatever the variety of the micro-organism concerned in the origination of the disease, in order to become pathologically active it must either have lain dormant in the genital canal for some time prior to parturition or it must have been introduced therein during or shortly after labor. An entrance into this region once effected, every encouragement is offered the micro-organism by the numerous abrasions and lacerations after every labor, however normal. It must be borne in mind that a mere mucosa abrasion is fully as dangerous as is a more extensive destruction of tissue. The individual susceptibility of the patient to the action of the virus is a favorable factor dependent upon the original vitality of the woman. Throughout the entire period of gestation there is a progressively increasing strain upon her powers; with reduced vitality she enters upon the stage of, it may be a tedious and often exceedingly difficult, parturition, and to the additional strain thus placed upon her, may be superimposed an intra-partum or post partum hemorrhage, whereby her defensive powers are still further broken down. Under these unfavorable circumstances the introduction into the vaginal tract of a germ that might otherwise be successfully combatted will probably be followed by the most disastrous results.

The factors which seem to favor the development of puerperal sepsis are a

greatly reduced vitality, the presence of numerous abrasions and lacerations in the parturient canal, whereby the ordinary entrance is favored of pathogenic germs, and the extreme difficulty experienced in preserving asepsis. It may be clearly seen, therefore, that after the most rigid observance of the laws of asepsis and antisepsis, patients in whom this unfortunate combination of circumstances exists may unexpectedly develop the disease.

I cannot close this part of the subject without emphasizing the fact that in puerperal sepsis there is an absorption into the uterine sinuses and other openings of the genital organs and thence into the general circulation, of the products of decomposition of the ptomaines. These ptomaines are produced by the action of the germs of parturition upon retained fragments of placenta, membranes, clots and lochial discharge. The method of introduction of the germs varies. They may be carried into the cavernous uteri by the hands of the physician, by uncleanly instruments, carelessness on the part of the nurse, or through the agency of unhygienic surroundings, in which the law of antisepsis is impossible. What ever the mode of entrance a more favorable nidus for the growth and multiplication of these germs cannot be imagined.

Within the genital tract they find suitable conditions for propagation. Heat, moisture and a most nutritious pabulum in the coagulated blood and serum and decomposing flesh particles. In an incredibly short time vast numbers are engendered by the process of decomposition of the albuminous materials, and it is through the absorption of these materials that the symptoms characteristic of puerperal fever arise. Once introduced into the general circulation they induce such a disorganism of the blood that the resisting powers of the patient are very markedly lessened, and the germs themselves then gain admittance to the circulation where they may rapidly perform their destructive function. According to the amount of hemic intoxication will be the gravity of the symptoms. The disease is characterized by fever, preceded as a rule by one or more initial chills and commonly intermittent in type; at times markedly intermittent. This symptom is not an invariable feature of the disease; in the rapidly fatal cases, the depression accompanying introduction of the virus may be so profound as to throw the patient into a condition of collapse. In these cases it is not exceptional to find entire absence of fever or even subnormal temperature. To a certain extent, however, the degree of hemic intoxication bears a relationship to the temperature variations, and so sudden is the elevation of temperature noted in the ordinary case of puerperal sepsis that a rise over 99° F. during the puerperal stage must lead at once to a suspicion of beginning septicemia. The pyrexia most commonly appears from the third to the fifth day, although in some cases the patient is septic from the day of labor. In other cases there may be no elevation of temperature until the tenth day, or even later, when there is a sudden high temperature, 101° to 102° F., without any warning other than a chill usually referred to the back or lower extremities. A severe type of the disease may be anticipated probably the fulgurant type. Generally there occurs a gradual or steady elevation of temperature, each day's temperature slightly higher than that of the preceding day. This progressive elevation indicates successive absorption of septic material.

Associated with the elevation of the temperature there is an extreme rapidity of the pulse, which is much out of proportion to the temperature rate, thus, with only a moderate degree of fever we may find a pulse rate of one hundred and twenty to one hundred and forty or more. This rapidity of pulse is a much more ominous feature of the disease than is the fever. It is always to be noted. The pulse is full, and in the minor degrees of sepsis is of moderate tension. In the more virulent forms it becomes small and exceedingly rapid. Respiration may reach sixty, and there is profound physic depression in every case, no matter how mild the degree of intoxication. The depression, like the pulse rate, is quite out of proportion to the physical manifestations. Headache is invariably present, and is often bitterly complained of. The gastro-intestinal symptoms are marked, there is a bad taste, the tongue soon becomes coated

with "fur," the breath is offensive. There is more or less epigastric tenderness with general tenderness over the abdominal parietes. The appetite is variable. Occasionally, nausea and vomiting, jaundice of a moderate intensity may be noted, the bowels usually loosen and profuse diarrhea follows. Stools are frequently white in color, exceedingly offensive, and in graver cases will be passed involuntarily. There is usually profuse perspiration, the secretions of the mammary glands may be much diminished, and the lips become parched and chapped. The patient presents an anxious cast of countenance. In some of the graver cases a peculiar dustiness of the body may be noted. The urine is scanty and febrile in reaction. There is tenderness over the region of the spleen, and careful palpation may detect an enlarged organ. The local manifestations have special reference to the lochia, and the conditions of the uterus. Upon the development of the septic condition the lochial discharge is diminished in quantity, and may even be entirely suppressed, at the same time its appearance and quality undergo a marked change. It loses its peculiar mawkish odor and becomes horribly putrescent and darker in color, and at times sanguinolent. The odor is no indication of the presence of dangerous pathogenic germs, although these may be present, but is almost, if not entirely dependent on the presence of immense numbers of bacteria of decomposition. There may be an entire absence of the lochia or of the putrescent odor, and yet the secretions of the uterine canal be loaded with streptococci, diphtheritic or other virulent micro-organisms, thus proving disassociation of odor with virulency.

Again there may be noted in connection with the lochial discharge an extremely foul odor which investigation will demonstrate to be entirely dependent upon an uncleanly condition of the external genitals without any co-existing general sepsis. Of much more value, however, in early diagnosis of puerperal septicemia are the uterine manifestations. These will consist in the first place of undue tenderness on manipulation, especially over the region of the fundus, associated with a certain amount of abdominal tension. By a careful bimanual examination the uterus will be found to be considerably larger than normal, and of a soft and flabby consistency, and we may experience difficulty in defining the outlines of the organ. It is not contractile, and shows at times complete loss of muscular tonus. The surface will be much softer than usual, and the external os is quite patulous so that the index finger may be readily introduced within the internal os.

Treatment.—Treatment is prophylactic. Active interference will alone limit the amount of systemic infection. The indications for treatment are to remove the source of infection, to eliminate the poisons already in the system and to sustain the patient during the profound physical depression consequent upon the hemic intoxication. This indication will be met by general and local medication.

The local treatment is first a thorough irrigation of the uterine cavity and vagina with either a normal salt solution or what I prefer most, carbolic acid, one teaspoonful to the quart of sterilized water. After thorough irrigation of the uterine cavity then I mop out the cavity of the uterus with equal parts of the tincture of iodine and carbolic acid. Every four hours I have the vagina thoroughly irrigated with carbolic acid solution, and every twenty-four hours repeat the uterine irrigation.

Internally, veratrum, if the pulse is full and bounding. If weak and thready, aconite. Also as an antiseptic I use chlorate potash, echinacea, etc.

723 South Meridian Street.

[Written for the MEDICAL BRIEF.]

The Diagnostic Value of Blood Examinations.

BY W. EDWARDS-SCHENCK, M. D.,

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Much can be said relative to the diagnostic value of a microscopic examination of the blood as an aid in diagnosis, but while a number of methods have been devised in the hope of making an estimation of anemia in a simple way, *i. e.*, the color estimation by means of filter paper

and a color scale, the count estimation by means of the hematocrit; yet these are unreliable and, therefore, valueless, and it resolves itself after all to the old method of the Fleishel hemo-globinometer, Thoma-Zeiss blood count apparatus, and the differential stain for practical and satisfactory work and, while the technique of their use, at first, is somewhat laborious, yet the results more than compensate for the labor expended, in the satisfaction derived by the advanced and progressive physician, in that he has added to his diagnostic method a very valuable adjunct.

In considering the blood, we must note:

1. Its color, by percentage of hemoglobin.
2. The number of red cells in the c. m. m.
3. The number of white cells in c. m. m.
4. The estimation of the hemoglobin in each red cell, termed color index.
5. Examination of fresh specimens.
6. Differential count of the white cells, showing the percentage of the different varieties by examination of the stained cover film, which brings us to consider its value by the citation of some of the conditions I have met in consultation.

We classify the anemias as primary and secondary. We will first consider the most common.

SECONDARY ANEMIA.

Appendicitis.—An example of its importance occurred some six years ago, when I was requested by a very progressive physician to make a blood examination in a case of appendicitis. The diagnosis was made by himself and two surgeons, the latter clamoring for an operation, but the former said, "Wait, I want further advice." The blood examination confirmed the diagnosis with a leucocytosis of eighteen thousand. I advised a wait of forty-eight hours, providing no serious symptoms developed. Another examination showed leucocytosis fourteen thousand. Another forty-eight hours' delay was allowed me, when the leucocytosis count was normal, and the next morning pus was found in the stool. Nature had kindly relieved the surgeons of their work and saved the patient from a serious if not dangerous procedure, for, recently several persons of his physique had succumbed to the knife.

Typhoid Fever.—Widal test is not always reliable, by itself, as diagnostic of typhoid fever, but if in addition to its reaction, you find by a blood count leucopenia, then your diagnosis is assured. Recently, in my experience of three positive Widal reactions only one of the three was typhoid fever.

Malaria.—This disease is often confounded with typhoid, but a drop of blood under the microscope will decide the diagnosis for you. A case in point, one where the Widal reaction was positive, but the case developed meningitis and hemiplegia, and a drop of blood under the microscope showed the plasmodium, and treatment directed in that channel restored to normal.

Another case, with nervous manifestations, was referred by a neurologist for blood examination, which revealed evidence of chronic malaria, with recovery when so treated. This case had consulted several physicians without relief, so it emphasizes the value of the blood test as a diagnostic agent.

Neurasthenia.—There is a relative anemia, *i. e.*, while the hemoglobin may be eighty per cent, which would be normal for four million five hundred thousand red cells, yet when the reds number seven million five hundred thousand (which is the particular feature of this condition, excess in number of red cells), we would have 0.70 of hemeglobin.

Consumption.—The white cells are reduced in number, leucopenia, and Holmes, of Denver, claims an increased per cent in eosinophiles in his experience. As the case makes progress the white cells return more and more to the normal count.

Syphilis.—Mercury, Hg. or K. I., increase the polymorpho-nuclear (adult) at the expense of the young cells, while the reverse occurs in health—an increase of the young cells at the expense of the adult.

Hodgkin's Disease.—Often has the physical appearance of leukemia. Blood examination is normal.

Leukemia.—There are two varieties, the lymphatic, *i. e.*, the leucocytosis, with increase in the percentage in the small mononuclear cells, and the splenic myelo-

genous, where there is a leucocytosis and a high percent of myelcytes, which latter cell is abnormal in the blood, and is normally found in bone marrow. A case was referred for blood examination with the typical physical signs that would be diagnosed as either Hodgkin's disease or leukemia, and the blood examination revealed a splenic myelogenic leukemia and fatal prognosis, died within a year. At present this condition is ably treated by means of the X-ray medium tube, with reports of recovery in many cases after one and one-half years X-ray treatment.

Acute Mania.—A prognostic feature has been found in a leucocytosis of sixteen thousand or more, where the differential white count shows polymorphonuclear (adult) cells of 90 per cent, which is indicative of a favorable prognosis.

Chlorosis.—Is considered by some a primary and, by others, a secondary anemia, and I am inclined to the latter, for it is often the result of intestinal auto-intoxication. A case, a colored girl, aged fifteen, was referred for blood examination, which revealed chlorosis, and proper treatment of the bowels, outdoor life, and the use of one of the late blood irons restored her to normal.

PRIMARY ANEMIA.

This is a term we all despise, because it signifies our ignorance relative to cause. I have hopes that ere long the neurologists who have done so much for hematology will have given us a definite etiology, and that we can then class it as a secondary anemia, as I am sure that it must be. In this class falls that fatal, irremediable disease,

Pernicious Anemia, which in the last ten years has added, in my experience, ten victims to the death list, one a dear friend and school mate, who had been considered as suffering from malaria, and on a casual visit to me I requested permission to make a blood examination, which showed this fatal disease, and within a year he was numbered among that large silent army. My experience with pernicious anemia is somewhat at variance with the views in the text-books. All my cases have died, and in all, except one, the megaloblasts were not required to tell us of the fatal issue.

However, this subject is too special for popular discussion, so more anon. I append a differential table that can be put in your text-books for reference:

19 West Seventh Street.

	Red Cells. Normal: Men, 5,000,000; Women, 4,500,000.	Size of Red Cells.	Nucleated Red Cells.		White Cells. Normal: 5,000 to 10,000.	Young Cells. Small, Large and Transitional Mononuclear, 20 to 30 per cent.	Adult Cells. Polymorpho-nuclear Neutrophiles, 62 to 70 per cent.	Old Cells. Eosinophiles, ½ to 4 per cent.	Myelocytes. Normal Only in Bone Marrow.
			Normoblasts.	Megaloblasts.					
PRIMARY.									
Pernicious anemia.	1,000,000	Increased	Less numerous than megaloblasts	Majority of nucleated exceeding normoblasts	4,200	45.9	Decreased	2.7	2.0
SECONDARY.									
Chlorosis	Rarely under 2,000,000	Diminished	Few	.....	7,485	33.0	Decreased	3.5	Rare
Leukemia:									
Splenic myelogenous	3,000,000	Normal	Numerous	Few	450,000	7.6	50.0	4.4	37.0
Lymphatic	3,000,000	Normal	Rare	.....	100,000	96.0	3.0	0.36	None to.?
Hodgkins' disease	Normal	Normal	None	None	7,500	Normal	Normal	.....	None
Tumors of or near the spleen	Diminished	Normal	Few	.....	20,000 to 40,000	Decreased	Increased	Usually increased	Few if any
Leucocytosis	.....	Normal	Few at times	.....	100,000 or more	Decreased	Increased	.....	Few if any
Chronic malaria*	Diminished	Normal	Few	.....	Increased somewhat	Increased	Decreased	.....	Few if any
Amyloid disease	Diminished	Normal	Few	.....	Increased	Decreased	Increased	.....	None
Hydronephrosis	Normal	Normal	None	.....	Normal	Normal or decreased	Normal	.....	None
Ac. Mania	Normal	Normal	None	.....	18,000 or more	Decreased	90%	Normal	None

* Persistent examination will reveal the plasmodium.

[Written for the MEDICAL BRIEF.]

A Therapeutic Error.

BY WILLIAM J. ROTHWELL, M. D.,

Professor of Medicine in the Denver-Gross Medical College, Denver, Colo.; Visiting Neurologist to St. Anthony's Hospital, Etc., Etc.
Denver, Colo.

The treatment of chronic valvulitis in its earlier stages is of great importance to the patient's future well being, but yet it is often carried out so as to damage rather than benefit him.

The importance of absolute rest during the acute inflammatory stage is well understood and observed, but when the febrile stage is over and the patient is regaining his strength, he is permitted to resume his occupation too soon.

Rheumatic endorcarditis, as is well known, is the most frequent cause of valvular lesions. Our duty to our patient is not over with the subsidence of the acute endocardial inflammation. Just then the burning question is: "How shall we minimize the damage to the valves by the changes taking place in them?"

Since the process going on in the valves is of an inflammatory character, if they could be brought to a state of rest no doubt the inflammation would subside. This is, of course, impossible. But should we not, by every possible means, approximate as nearly as possible the state of valvular rest? Increased arterial tension causes an increase of labor for the valves. Diminished blood tension lessens their activity. The indication then is plain. Keep down arterial tension. How shall we do so?

1. By prolonged rest.
2. By light, easily digested food.
3. By such arterial dilators as sodium nitrite two grains three or four times a day, or such other measures as readily suggest themselves.

That digitalis in any form is here plainly contra-indicated should be self-evident. It raises arterial tension and causes the valves to shut back under greater pressure. Its use here is a dangerous therapeutic error. I have heard its use advocated on the ground that it is a heart tonic and promotes compensation. False reasoning! Minimize the valvular defect, the heart muscle will take care of itself.

313 Cooper Building.

[Written for the MEDICAL BRIEF.]

Conditions which Influence the Success of Operations.

BY A. M. CARTLEDGE, M. D.,

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Louisville, Ky.

After we have examined a case and employed all the diagnostic measures with which we are familiar, it becomes necessary to make a prognosis. That is, the estimate of the final results in any operative procedure, if we are dealing with the surgical aspects of a case. I want to emphasize this important phase of the practice of medicine as well as surgery. It is necessary, after having made a careful diagnosis, to forecast the probable outcome, in other words, to make a prognosis. It becomes necessary to inform the patient (or the family), what the probabilities of success are; the dangers, and the elements which influence the success of the operation. It is always necessary for the physician to be alive to these facts, otherwise his mistakes will be numerous, and a source of regret to himself and sorrow to his patient.

The surgeon must be first a physician. There is no exception to this rule. Without a thorough knowledge of the various organs of the body, their diseases, their functions, etc., no surgeon can hope to be successful. Without this knowledge you can perform, perhaps, certain mechanical operations, for mechanical skill is largely a matter of inheritance, but even the chiropodist who is not a physician, will fail in his work; the many fatalities following the simple cutting of corns is an evidence of the importance of medical knowledge in this minor operation.

You must understand the science of asepsis. The ability to locate a fibroid tumor is useless unless you are also able to diagnose and classify heart lesions, lesions of the lungs, kidneys, etc.

Having made your prognosis it is necessary to be frank and honest with your patient regarding the probable outcome, and here your advice ceases. It is not your function to persuade people to accept operation. A proper knowledge of the subject and of the statistics may enable you

to speak favorably of the outcome, and to explain the chances of success or otherwise, but do not tell your patients that surgical operations are not attended with danger. The average patient sees this matter from a very different viewpoint. The physician looks at it from the rosy, optimistic standpoint of modern science, while the patient has an inherent dread of operation, and looks upon it as the probable cause of death; and when a relative or friend has died following operation, they never attribute this death to any other cause than the operation, nine times out of ten. Occasionally you will find that *rara avis*, the patient who is sufficiently familiar with medicine and surgery and pathological processes, to know that the patient might have died without operation, but this is exceedingly rare. So firmly is this conviction rooted in the mind of the average patient that they will doubt your statement if you tell them that operation is not dangerous, or they will believe you do not sufficiently weigh your words, to say the least. In the case of the patient who goes no further than to take your statement literally, and believes implicitly all you say, and you operate and the patient dies, that patient's friends will feel that they have been unfairly dealt with; that you have either lied to them, or that you are a fool. And, much as I detest a liar, I think I would rather be called a liar than a fool. Explanations will not help you, the patient died, after you had assured the family that the operation was not dangerous, that is all they care to know.

"Honesty is the best policy" in medicine as well as business. State the facts, then, concerning operation, to the patient or the family. I sometimes think, and I am sorry to be obliged to say this—if more of our practitioners would put that old proverb into practice the profession would be the better for it. And I can truthfully say that I do not know a doctor who is really successful in his profession who is not honest in his statements to his patients.

If the patient is properly prepared he will come to the operating table in a better frame of mind. The most frequent question, following diagnosis, is: "What do you think of it, doctor?" Suppose the patient is a woman who has a fibroid tumor, her first question is likely to be: "Should I have this removed?" "What is the danger in case of operation?" My answer is that there is always danger in operation. I can say that cases of fibroid tumor in good hands offer ninety-six chances out of one hundred in favor of the patient. I sometimes put it in this way: Supposing the patient has come from a near-by town. I will say: "If you travel back and forth to this city often enough you will lose your life. The danger in operation is very similar." Mind you, I do not say the chances are four toward death and ninety-six for recovery, but ninety-six for recovery. I also explain that in many inflammatory conditions the patient runs greater risk of dying and is exposed to more dangers every month than in operation. Do not tell patients they are "bound to get well." Continual assurance on this point will cause a suspicion in their minds that something is wrong, and at the very first approach of pain—and there is always more or less pain after a major surgical operation—they will go to pieces at once. As a matter of fact, I usually tell my patients that they will feel rather badly for two or three days following operation, and may have considerable pain, but I encourage them by saying that if the pain is severe we will relieve it. If the operation is approached in this fashion the progress will be infinitely better.

In securing the history of the patient, a few well-directed questions will give you a better understanding of the existing conditions than hours of conversation on the part of the patient without such questioning.

What are the chances of success in the average surgical operation?

Other things being equal, we can, thank Heaven, at this day and time, rule out the possible chance of inflammation as it ordinarily occurs. How much easier to make a prognosis now than in the days of our forefathers. They were simply working in chaos, and it is little wonder that the people in those days considered it a matter of divine intervention when a patient recovered. Not much wonder that many people in those days died before their time—and some of them do now.

Among the organs which influence our prognosis, the heart, perhaps, ranks first. The first question is, can we use an anesthetic? To what extent is the heart affected? Organic lesions such as mitral and aortic insufficiency have not the influence they are credited with. It is the patient with fatty degeneration who is most dreaded by the surgeon. It is these patients who drop dead on the street, when they are looking their best. Other heart lesions, if there is compensation, do not materially shorten the lives of their victims. The patient with mitral insufficiency will take an anesthetic and make a good recovery. Fatty degeneration is not by any means confined to old people. In these days of excessive drinking, overeating, lack of exercise, etc., you will find arterial degeneration, sclerosis of the vessels, atheroma, in men of thirty years. These are the dangers the surgeon must look for. It is the myocardial cases which cause trouble; we look for the arcus senilis, and for the brittle and pipestem arteries, for breathlessness on the slightest occasion, for the patient with fatty heart can take but little exercise. Outside of fatty degeneration the lesions of the heart do not materially interfere with the success of surgical operations.

Asepsis is a relative term. Of course, we can cleanse our hands, our instruments, etc., but there are germs everywhere, and if there was no natural resistance in the patient the wound would suppurate every time. You can scrub and scrub the leg of a diabetic patient, using no ligature at all, perhaps torsion, yet the wound would suppurate most disastrously. There must be natural resistance in the tissues or the patient cannot get well.

Lungs.—Do not operate upon a patient with advanced lung disease, unless it is a surgical emergency, as in case of hemorrhage, or a tracheotomy where the patient is choking to death, and even in these cases the prognosis is most grave. Do not operate in cases of advanced peritonitis, or cancer. Credit cannot come to the surgeon through these procedures. The patients will die whether in one month or three following such operations. Many tuberculous patients recover, therefore operation in these cases should be postponed until the patient is well. Tuberculous cases take anesthetics very badly. Do not be tempted to operate. You may be able to outline perfectly a fibroid tumor in the tuberculous woman, but do not operate.

Kidneys.—Every doctor should be a practical urinologist, and able to make his own tests, not only for sugar and albumin and the simpler elements, but to use the microscope and examine for casts. Of all the pathological conditions affecting the success or failure of a surgical operation, the kidneys play the most important part. More important, perhaps, than all the other influences combined. The urine may be examined and no albumin found. It is necessary to determine the quantity of urine voided by the patient before operation, if the quantity is diminished that alone should excite suspicion. Examine at least three times with the microscope for casts. During week after week the urine may show no trace of albumin, and yet there would be casts. I recall a patient in this city, who was told by a careful diagnostician that his days were numbered. His oculist had found a suspicious looking change in the retina. This patient went to a distant city and paid fifty dollars for an analysis of his urine. He was told that he had a granular kidney, and would probably live a year. That patient came home and took out two hundred thousand dollars worth of life insurance. The life insurance "experts" simply took a specimen of the urine into a dark room, heated it and made the usual search for albumin, which they did not find. This patient had a form of kidney degeneration without albumin. Here is where the microscope is necessary. Good surgeons are loath to believe that these things cannot be diagnosed beforehand.

Nine-tenths of the mistakes of doctors are due to carelessness rather than ignorance. Eternal vigilance is the price of success in medicine, and is the saving of the lives of our patients. Diabetes has the worst possible influence upon operation, and in these conditions is absolutely contra-indicated except in the gravest of emergencies.

There is another class of unfavorable subjects. We recognize them by intuition. A very stout patient, for instance, has not

so good a chance for recovery as the slender one. The weight of the patient makes it difficult to change his position easily, handling is not easily managed, and this little feature may make the difference between success and failure. If the heart is unfavorable, the operation a severe one, and the patient fleshy, the prognosis cannot be but unfavorable. On the other hand, if the kidneys are in good condition, heart good, freedom from disease, operation not too severe, it may make little difference about the flesh. It takes very little to kill a man or woman, and again it is almost impossible, but it is the little thing that is always the determining factor.

Then there are the "intangible" influences which affect the diagnosis. Undoubtedly the nervous organism of the individual affects the outcome. This is learned by sad experience. You will learn to recognize these patients and avoid operation if they will get on with medical treatment.

It is a bad idea to operate upon insane people, and there are more crazy people outside the insane asylums than in them. They are bad subjects, and seem to do everything but the right thing, and I have never operated upon one of these patients without regretting it. Several years ago there was a disposition in the profession to treat insanity by surgery, supposing that many cases of vague mental trouble were due to physical causes. This was while the profession were daft on the reflex theory. Many surgeons reported wonderful results following the castration of insane patients. However, these results were but first impressions. Any change in environment will temporarily benefit the insane, but the wholesale employment of this operation throughout the country only changed people who were "queer" from respectable maniacs to violent lunatics.

205 West Broadway.

Dr. Otto Juettner, of Cincinnati, since the appearance of his work on Modern Physio-Therapy, has been made member of the Anthropological Institute of Great Britain and Ireland, a very distinguished honor.

[Written for the Medical Brief.]

A Suggestion as to the Causation of Leucoderma.

BY JAMES M. BLAINE, M. D.,

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The term leucoderma means a condition of the skin where it loses its color, that is, complete loss of pigment. Among the various theories of causation described in the text books the most plausible are the neurotic, and second, that something has gone wrong with that part of the economy which furnishes the pigment.

One of the peculiarities of this disease is that it so frequently occurs in straight lines. I have observed cases where there would be a line for a considerable distance as straight as a carpenter's rule. That would tend to contradict any neurotic theory, or any arterial theory, because no nerve or blood vessel is distributed in straight lines, everything terminates in branches.

There are probably more cases of leucoderma in Colorado than in any other section of the country, so far as I am aware. When I first began to observe so many cases in Colorado I was led to accept the neurotic theory, because we know that this altitude, with its dryness, and its reduced pressure to the square inch, does affect neurotic cases. Therefore, I accepted the theory that leucoderma was due to neurotic conditions—tropho-neurosis.

Within recent years it has occurred to me that a possible explanation of the more frequent occurrence of this condition in the Rocky Mountain region might be found in the fact that we have more direct sun rays, I mean by that more sunshine, and the rays more direct than in any other part of the country. There must be a similarity between the different rays used in medicine, X-ray, Finsen's light, etc., so there must be some relationship in action between those and the rays of the sun. We know that in many cases that have been treated by the X-rays for a continuous length of time that sometimes the pigment is driven from the skin, at other times the pigment is increased,

showing that the X-rays must have some influence on pigment. The fact that most cases of leucoderma occur on exposed parts of the body has lent color to this theory.

If the sun's rays will produce freckles and tanning, which is merely an increase of pigment, why might it not reverse its action and produce lack of pigment?

Leucoderma is no respecter of age or color. It is observed most frequently, perhaps, in the dark-skinned races, for the reason of the greater contrast, but closer observation demonstrates the fact that it occurs quite as frequently in the white races.

Treatment.—This theory is merely speculative, but inasmuch as the neurotic and the pigment formation theories are equally speculative there is no good reason why another theory might not be admissible. As to treatment of leucoderma nothing new has been discovered that would hold out any promise in a therapeutic way. The suggestion is made that strong blistering liquids be applied in the hope that the inflammation produced might cause a return of the pigment, for the same reason that pigment very frequently follows blisters and contusions.

The one great difficulty is to harness the rays so as to produce pigmentation instead of the opposite. If the day should come when the operator can so control his machine as to produce or decrease pigment at will, then a cure for leucoderma will be at hand.

If this theory as to causation should prove correct, or at least correct in a certain number of cases, why would it not be reasonable to suggest the use of the X-rays as a therapeutic measure?

Steele Block.

[Written for the MEDICAL BRIEF.]

Hydrophobia.

BY W. E. HARRAL, M. D.,
Professor of Osteology, Barnes University, St. Louis, Mo.

Patient, W. K., aged 29, married; occupation, janitor.

On the evening of January 24, 1906, this patient came to my office complaining of muscular soreness in muscles of both arms, from which he had been suffering for several days.

From history given and symptoms present I thought it was a case of muscular rheumatism, and prescribed accordingly.

On the morning of the 25th I was called to see him. Found the patient in an exceedingly irritable mood. He was deeply depressed, and the slightest noise disturbed him greatly. He was unable to swallow without considerable effort.

Pulse eighty, temperature 100° F. Had slept little; intense thirst. On further inquiry found that about ten days before he had run a wire into his thumb while trying to unlock a door. I immediately thought of tetanus, and as I had the history of the injury I prescribed a dark room, absolute rest and put him on ten grains of chloral with twenty grains of sodii bromide every two hours.

I saw him late in the afternoon with Dr. A. R. Kieffer. We increased the chloral and bromide and used anti-tetanic serum, but symptoms gradually increased until on the morning of the 26th, he showed unmistakable symptoms of hydrophobia, having spent a very restless night.

The muscles of the larynx were extremely irritable, swallowing was almost an impossibility, and breathing difficult. Slight paroxysms occurring every twenty minutes. Saliva accumulating very rapidly. Pulse ninety; temperature 102° F.

During the intervals between paroxysms he was perfectly rational.

We pushed the chloral and bromides and added morphia, but the patient failed to get any sleep.

Paroxysms gradually increased. At last I obtained consent of the family to remove him to the Emergency Hospital. By midnight he had reached the third stage. Prostration marked, paroxysms gradually subsiding. Heart gradually failing. We reached the hospital before day. Patient died at 10 a. m. Perfectly conscious to the last.

On the day of death I learned positively that he had been bitten by a dog in the first week of October, 1905. This fact had entirely slipped the patient's mind.

The bite of the dog was on the right fore finger while the injury by the wire was on the thumb of the same hand. In spite of this there was apparently no connection between the two wounds.

6201 Etzel Avenue.

[Written for the MEDICAL BRIEF.]

The Treatment of Tuberculosis of the Wrist in Young Adults.

BY ALBERT H. FREIBERG, M. D.,

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The wrist is a particularly distressing localization of joint tuberculosis. It occurs for the most part in young adults and, therefore, in persons beginning to earn a livelihood, to whom the hand and wrist have become almost indispensable for their continued existence. The complete loss of a hand by amputation, in such cases, is a catastrophe. It is a matter of experience with almost all of those who deal with many cases of this class, that the wrist is an unfortunate localization of tuberculous disease, for the reason also, that our endeavors to bring about a cure have met with no success in the great majority of cases. Conservative methods have, for the most part, been unsuccessful, and under this treatment abscess formation, operation, and recurrence followed by amputation, has only too often been the history of the case. If, therefore, we have any means at our command which is capable of illuminating so dark a field it must be accepted with enthusiasm by the profession.

It is my belief that in the treatment of such joints by passive hyperemia, which was introduced by Bier, we have a method which, if intelligently used, is destined to take away much of the gloom which has hitherto enveloped this group of unfortunate cases.

In the first place, a word should be said regarding the recognition of wrist tuberculosis. It has been my experience to observe a number of cases of tuberculosis of the wrist whose beginning was much more acute than is the case with most tuberculous joint affections. This was true to such an extent that several of them were mistaken for acute articular rheumatism, having begun with an apparently short onset, with febrile symptoms. Analysis of the cases shows that the onset was only *apparently* short, since, upon inquiry it was found in all cases which I have seen, excepting two, that there was a previous history of stiffness and occasional pain in the joint. In none of the cases, however, was there more than the one joint affected. The swelling and tenderness were of such a character as accompany a certain amount of effusion, and the resemblance to acute articular rheumatism was more than slight, if we overlook the one important point, viz., that in all of the cases the affection was a monarthritis. In all of the cases the symptoms were not at all affected by the salicylic treatment which was at once instituted in each case by the attending physician. And in all of the cases but one I saw the patient after four weeks had elapsed. At this time the diagnosis was, of course, comparatively easy, and there required to be excluded only the gonorrheal joint, which is sufficiently common in the wrist to require serious consideration, and the septic joint such as frequently enough accompanies or follows influenza or other general infections.

The treatment of a case seen within a few weeks of its onset should embrace splinting of the joint by means of plaster of Paris or other material applied to the palmar surface only, and in such a manner that daily removal is possible for the purposes of congestion. In addition it is taken for granted that the general hygienic measures which are indicated in every case of tuberculous disease, whether articular or not, will receive due attention, and I shall not revert to them further at this time.

By the congestion treatment in a case of wrist tuberculosis is meant the application of an elastic rubber bandage to the arm, preferably midway between the elbow and shoulder with such tension as to produce a hyperemia of venous character in the segment of the limb below the bandage and without interfering with the arterial circulation. The tension of the bandage must furthermore be so regulated that the passive hyperemia will not be so intense as to reach the so-called "cold" stage. The affected part should feel throughout the whole treatment warmer than before. There should be no parasthesia beyond possibly a slight tingling. A complaint of pain from the

patient is an indication that the bandage is too tight, and it should, therefore, be loosened. It is my experience that after two or three applications the patients themselves become very intelligent judges of the proper condition of the bandage. Applied in this manner the bandage should remain one hour daily, the splint and other dressing having been previously removed. The effect of this is to be observed, as a rule, in a comparatively short time, and usually the more acute the manifestations the more rapidly occurs the subjective sensation of relief. Within a few weeks a very decided change in the behavior of the joint is noticeable. It is my custom to follow the course of these cases very carefully by means of Roentgen-ray pictures; the importance of making use of this aid I have elsewhere insisted upon.

If it appears that the case is proceeding toward recovery the mistake should not be made of interrupting the daily congestion treatment too soon, but after a number of months the splint may be left off, the arm being carried in a sling and the congestion treatment continued as before. In order to avoid recurrences the congestion treatment should be continued for a period of nearly a year.

But all cases do not have this fortunate termination, even though the above directions are faithfully carried out. Abscess formation cannot be entirely avoided. When this occurs the abscess should be opened under careful precautions and drained, the congestion treatment being continued as before, and if, within a reasonable length of time it is seen that the sinus shows no tendency to heal, or if, on the other hand, the wrist is found to be badly disorganized when first seen, the operation of complete excision of the wrist should be done without delay. This operation I have found quite satisfactory, especially if it is followed by the congestion treatment. It appears to me as the result of the few cases that I have been able to treat in this manner that the treatment by congestion assists very materially in preventing recurrence.

Many cases of tuberculosis of the wrist will be encountered in which the soft parts on the one hand, or the forearm bones and metacarpals on the other, are so extensively diseased that nothing but amputation can be considered, I do not doubt. It has, however, been my experience to see cases of wrist tuberculosis reclaimed from amputation by the congestion treatment, or the combination of operation and congestion treatment, and I am prompted on this account to advocate these measures thus enthusiastically.

[Written for the MEDICAL BRIEF.]

Sending Consumptives to Colorado.

BY WALTER M. DAKE, M. D.,

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It is indeed difficult to say exactly what class of patients are benefited, and what sort hurt, by being sent to Colorado. There are no broad general rules that one can apply in deciding whether it is wise or unwise to send a case of tuberculosis into new surroundings and a new climate. The test of an actual experience can alone render a decision that can be considered as final.

But there are some general considerations that should to a certain extent govern those sending patients here, even though there be no one of them that is not occasionally disregarded with benefit.

If the patient has with his tuberculosis, that far worse complaint, poverty, and has it in its unmitigable form, there is no use whatever in sending him away. If it is curable poverty, and some one steps forward with the remedy in heroic doses, it can be disregarded. Occasionally, however, the rule that poverty, which is not relieved before the flight of the patient into the new climate, proves rapidly fatal there, is controverted by some cases we see recover from both poverty and tuberculosis. It is safe to say the exception proves the rule.

When I first came into the Rocky Mountain region I met a man who, some twelve years before, had been given up to die in New York, and who, suffering from advanced tuberculosis, had also an intense case of financial anemia. He left New York for Denver, and arrived here with seventy-five cents as his entire capital wherewith to fight the battle for life.

A kind stranger staked him, and he was out the next day with a tray of pins,

needles, and such other small merchandise as goes therewith. From the start he sold enough to keep himself in food, slept in a well-ventilated room where ventilation took the place of furniture, and all day was in the open air. At first he could scarcely carry the tray, but day by day he fought for life, gained strength, coughed less, ate more, and in the end won out gloriously. Today he has serviceable lungs, a well-stocked store, and a considerable quantity of this world's goods within reach. He had a quality that made his fight a winning one, and which, where it exists, can always negative the rule of not sending a poor man to Colorado until his financial condition is mended. He had that compound of hopefulness, courage and will power which, for want of a better name, we call grit. If the patient has grit plus he may be told to come even though the physical and financial arguments are all on the other side. One lung is better than none to fight with, and if he goes down he can do so feeling that he has done all he could and thus justify himself.

And this brings me to the first rule, and the only one that has no exception; if the patient is hopeless, and has always been of the easily discouraged sort, has not grit, no stamina, no fight in him, do not, even though he be the only son of Croesus, send him away from home.

The second rule that has only a few exceptions, is the one first mentioned of poverty. It is far more humane to let the poor in spirit die at home, and infinitely more so to let those who are also poor financially pass away among surroundings that are unlovely, but loved, and among dear ones rather than strangers.

Dividing pulmonary tuberculosis into three stages, the first before the lesions are physically detectable, the second when they are found and before they begin to break down, and the third after lung tissue is being actively destroyed, it is easily seen that the more clear the case becomes the less hope of cure exists.

It is quite a safe rule to follow that with active degenerative processes going on, a large area affected, a high temperature in the afternoon, progressive emaciation, and more or less loss of digestive power, there should be no thought of sending the patient here. These cases are, of course, not entirely hopeless, but they are the proper subjects for the near-at-hand sanitarium, and they will do better near home.

For not sending patients away in time doctors are often blamed when they do not deserve it. Many people are sick for months, and their physicians advise that they go to Denver, or some other favorable locality; and because they are able to go around and can attend to business no one close to them urges that they go. A hemorrhage, or some sudden realization of the situation makes all the relatives advise a change when it is too late, and the whole blame falls on the doctor, even though he prove his advice to be months old. There are many persons able to make the change financially who will not give up their business or their home until some knockdown argument reaches their understanding. When it has been reached they find the good old rule of "better never than late applies with peculiar force in the expatriation of consumptives.

Patients who are in the first stage of tuberculosis profit most by the change. Those in the second stage who have grit are very frequently cured, and sometimes those with cavities and with a perfectly hopeless future at home come very near attaining their full expectancy in this climate.

In coming to Colorado it is necessary that, for several months at least, even those in the first stage should not do any physical labor except such as is involved in eating a vast quantity of excellent food.

Those in the second stage must have this more strongly impressed on them; and must be made to understand that exercise, as well as work is beyond them; that idleness, rest, fresh air, and abundant food must be theirs.

For all of these the possession of means sufficient to give them what they need is easily seen to be one of the prime factors, and as all the charity organizations of the State are chronically taxed to their full limit it must be realized that when a physician who knows the situation and its needs emphasizes the need of money he does so from no mercenary motive.

In sending patients to Denver or to Colorado Springs it is well to send some one with them, as homesickness is thereby lessened, and the care and attention thus obtained is very necessary. By taking a house in the suburbs, furnished, and with gas and electricity, all the comforts of home can be had. In this climate, with its superlative air and sunshine, the native does not fear the disease, and as about only one-half of one per cent of those dying in the State from tuberculosis contract it in Colorado, it is easily understood that they have no need to fear it. Therefore, small houses are obtainable. For those with more plentiful wealth there are sanitoria ranging in cost from the inexpensive at about forty dollars per month, to those where beef juice and extras carry the cost high into the hundreds.

It is always best to give patients letters of introduction to physicians in the place to which they go. The advice to see no physician is often given, and frequently works irreparable injury. Only a few weeks ago I was called to see a young man who had been here for months, who had followed this advice, and finding the upper lobe of the right lung almost entirely excavated, with the apex of the left beginning to go, a high temperature, and a constantly increasing emaciation and debility, I had no alternative but to send him home to die, which he did some four weeks later. It may be unfair to say that had he been sent to some one of our able lung specialists when he came here he could have been saved, but I shall always feel that he might have been.

Hemorrhagic cases, and those with damaged hearts, should not be sent to an altitude of over six thousand feet; and it is very doubtful if old chronic fibroid cases should be sent to any altitude great enough to dilate beyond the normal the remaining unaffected lung tissues. For them a low altitude, and a moister climate are better.

A climate that is temperate or cold is best for all cases, and where a dry rarefied atmosphere, the comforts of civilization and an excess of sunny days can be had, as they can be in Colorado, a case that is curable can be more rapidly cured than at home, and many be saved who would have perished if they had remained where the disease was contracted.

As to the season for sending patients here, there is little choice. To miss a hot, rainy summer at home, and be in the bracing air of Colorado, would surely make it seem best to send the consumptive here in the summer, but the gain of patients in winter is really more constant and satisfactory than in the summer, and at any season of the year the change of climates can be made. The favorable opportunity is when the diagnosis is made, and the largest amount of time can be saved by sending him at once.

1427 Stout Street.

[Written for the MEDICAL BRIEF.]

A Plea for a More Thorough Knowledge in the Administration of General Anesthetics.

BY O. A. AMBROSE, A. M., M. D.,

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I have chosen the above title for this little paper, thinking it would attract more than passing notice, for I am thoroughly alive to the fact that the busy practitioner has little time to give to the reading of his medical journals, and is apt to make a very hurried perusal, particularly if his own special line of work is not mentioned. I feel no hesitancy in saying that I believe that the above title should appeal to every doctor and cause him to stop and consider the responsibility that is placed upon the man whom he selects to occupy so important a position as the anesthetist. I refer not only to the surgeon who is about to go into some major operation, necessitating careful technique and other anatomical knowledge, and who, in the eyes of all concerned, is responsible for the life of the individual, but to the general practitioner who suddenly needs a practical anesthetist to administer the anesthetic, that he may properly reduce an existing fracture or dislocation, or terminate an accouchement.

Does he stop to consider that the patient's very life is placed directly in the

hands of the one who has to administer the anesthetic, and does he know that the anesthetist has a thorough knowledge of the drug that is to be administered? Does he know its danger signs? How much to administer and at the proper time to stop its administration, and what to do when untoward effects occur, and does he know when to select ether and when chloroform?

Unfortunately in the past there has not been sufficient knowledge required in our medical colleges concerning this line of work, and it is no wonder that we so frequently see cases in which a physician is called upon to administer an anesthetic going into it with fear and trembling, well knowing that he is dealing with a dangerous agent, and that his knowledge concerning its action is limited.

I am well aware of the fact that the mortality from anesthetics is very small, but how often do we see patients struggling and taking the anesthetic badly during a surgical procedure, or otherwise at times almost cyanotic; or, following the operation remains in a condition of shock due to the fact that the patient is saturated or did not receive enough to produce a safe and complete anesthesia? All of these conditions caused by an inexperienced anesthetist. And yet the surgeon or the practitioner is willing for almost anyone to occupy so responsible a position. It is too frequently the case that a great many doctors do not consider the administration of the anesthetic of any great consequence until they are unfortunate enough to lose a patient, not from the immediate effects of the drug but from conditions following it. Experience is the best teacher, and it is experience combined with thorough knowledge which makes successful anesthetists. And without knowledge for a foundation the experience is of little value. This is to be obtained by carefully observing the administration of the anesthetic in the hands of a competent man.

A thorough knowledge of the drug with which he is dealing, and the manner in which its effect is produced is part of his equipment for the work. If students of medicine were as anxious to see how an anesthetic is administered as they are to see a surgical procedure, I dare say there would be little use for a paper on this subject. For, as a rule, the first thing that a graduate of medicine is called upon to do when he enters the field is to administer an anesthetic.

Any one can stand at the head of an individual and throw chloroform or ether on a mask or into an inhaler, but unless he be thoroughly skilled in what he is about to undertake he has good cause to be filled with alarm at the danger signs if he knows not what to do, and the result may be a fatal one, both to the patient and the doctor, and at this point I desire to emphasize the following:

In the first place a competent anesthetist is a specialist, and should be accorded that position by his brother physicians.

That there is not enough caution exercised in the selection of a man to occupy this responsible position, due to the fact that his position is so frequently looked upon as a minor one.

That it is the anesthetist who is responsible for the life of the patient. For it is his duty to carefully note any heart lesion, any kidney derangement and select his anesthetic accordingly, and he remains the responsible party from the time the first inhalation is taken until consciousness is entirely restored.

In respect to the proper duties of the anesthetist, as concerns any surgical procedure or otherwise, he should first thoroughly acquaint himself with the patient, providing the case is not an emergency one; he should note the nature of the intended procedure; look to the preparation of the patient as concerns the anesthetic; see that his armamentarium is complete for the administration, and that the temperature of the patient and the room is properly maintained.

A point upon which I cannot lay too much emphasis is that the anesthetist should devote his entire attention to his patient once anesthesia is undertaken. He should be master of the situation at all times, not even overlooking the smallest detail, always remembering that the dangers of a properly conducted anesthesia are practically nil, but become far-reaching when improperly applied.

932 Beach Avenue.

[Written for the MEDICAL BRIEF.]

Edema of the Glottis.

BY D. WALTON HALL, M. D.,

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Edema of the glottis, that most distressing malady, fortunately for humanity, as well as for the doctor, is comparatively rare. Prognosis, even in uncomplicated cases, is, as a rule bad, whether it be of traumatic origin or from systemic dyscrasia.

The following case of edema of the glottis is of interest on account of its being complicated with laryngeal papillomata. In August, 1903, Mr. Z., aged forty-five, having always enjoyed good health, came to my office complaining of sore throat, as he expressed it; had a "full feeling," and he was quite hoarse and coughed some. The hoarseness and cough, he said, had been present for several weeks, but he paid no attention to these symptoms, as he felt well, and had a good appetite. In fact, he had the appearance of a healthy man, although not robust.

Examination revealed a normal pharynx, but ventricular bands and arytenoid cartilages were slightly inflamed. The vocal cords were studded with papillomatous masses varying in size from that of a number eight buckshot to that of a pea, and were about five or six in number. The mucous membrane of the cord between these growths was slightly pinkish. I sprayed the larynx with Daboll's solution, and advised one-half grain of calomel, to be followed next morning with saline cathartic. I advised the patient to go home until the acute inflammation had subsided, and then return and have the growths removed from his vocal cords. On the second day, however, he came to my office complaining of increased stiffness of throat and some impediment in swallowing, with slight inability to get sufficient breath, especially when walking. His cough was more annoying than when I saw him two days before. On examination the papillomata seemed to have taken on more inflammation, and was somewhat larger, and the arytenoid cartilages and ary-epiglottic folds were also more disturbed than when last seen. I advised patient to go home and apply cold externally to throat, and prescribed tincture of benzoin one drachm to a pint of boiling water. Temperature 99½° F. at this time. I advised more calomel, followed again by saline cathartic, as not much effect had been produced by former dose. The next morning early he came to my office with that typical expression of face found in those who labor for breath, and his inspirations were accompanied by stridulous sounds that could be heard quite a distance away. When the patient assumed an erect posture for any length of time dyspnea would become quite marked, and it was only when he leaned forward on a chair that he could breathe with any degree of comfort.

Examination showed infiltration had invaded thoroughly ventricular bands and arytenoid commissure, and breathing was possible only by extreme effort. Spraying with a ten percent solution of cocaine these tissues were scarified, which resulted in some relief to the hampered breathing. Patient was sent home, and I was prepared to follow him if necessary. About six hours later I was summoned in great haste to his home, and found him leaning forward on a chair with more dyspnea and beginning cyanosis. He was placed upon a table and a tracheotomy was hurriedly performed. For several minutes the patient's life was at a very low ebb, no breathing being manifest, and but a feeble and thready pulse, but artificial respiration finally started breathing through the tube, cyanosis disappeared, and the pulse gained in strength. Patient was in a dazed condition for some days being irrational most of the time, and it was with great difficulty that the family attendant kept him in bed. During one of his struggles to leave the bed the tube was pulled out, and he was nearly suffocated before the nurse could slip it into place. On the fourth day the patient became rational, and wanted to eat. A vast amount of clotted blood was evacuated through the tube. Patient remained indoors three months following tracheotomy, respiration taking place through tube, during

which time he made his wants known by speaking with a hoarse and harsh voice. Four months after operation, during which time patient breathed through tube, I removed the papillomata from the larynx and closed the opening in the trachea. His breathing was free and thoroughly normal, and his voice gradually improved, though was not quite resonant. It was noticed that the left side of the larynx did not approach the opposite, the left cord and arytenoid cartilage were motionless, while the right side moved readily. For several weeks treatment by means of the faradic current was given, one pole being inserted into the larynx. The left side gradually developed some motion, and finally regained its normal condition. The patient is now well, and his voice has normal resonance.

The unusual feature about this case of edema of the glottis is that it was associated with laryngeal papillomata, which were growing very rapidly. The patient had contracted a severe cold prior to his call on me, by falling from a boat into cold water and becoming thoroughly chilled. This, no doubt, added to the inflammation of the parts brought on by attempting to force the voice past the tumefactions, had caused the edematous condition.

Bryant Building.

[Written for the MEDICAL BRIEF.]

A Note on the Improper Management of Epileptics.

BY MARC RAY HUGHES, M. D.,

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Not many years have elapsed since epilepsy was listed in the category of incurable diseases. In fact, most people now believe it to be a disease never entirely eradicated by treatment. There are many reasons why it should be now classed as a curable malady. Like all diseases, the more we study the etiology and pathology, the better we become acquainted, and are more capable of producing results from our treatments.

Heretofore scarcely anything was known regarding the pathology of this disease. Now we know that there is a distention of the ventricles of the brain, and a decided contraction of the arterioles of the cerebral cortex, though each stage of the disease has a separate and, in a manner, a distinct pathology of its own. In the grand mal type there is more fluid in the ventricles and more vasomotor disturbance due to pressure. There is more of the alternating state of irritation and paralysis of the vasomotor system of the brain and allied nervous system, especially at the beginning of the attack.

That is the first step in the pathology of grand mal. There are two other steps and stages in this variety of the disease that it is not necessary to mention here, but suffice it to say that each stage and each pathology of that stage can be produced artificially in animals and studied. A trauma, a blood toxine and auto-toxines are producers of the disease; likewise the intra venous injection of absinthe, ammonium carbonate, alcohol, camphor, etc., also irritation to the vasomotor brain blood supply and superinduction of ventricular fluid by galvanism and faradism.

This disease is one that should be handled in the most careful manner. One reason why it is so widely classed as an incurable disease is the fact that the treatment has been overdone at the wrong time or not carried on far enough at the proper time. The use of electricity has been greatly abused, likewise the bromides. Electricity is capable of producing epilepsy according to the area of brain covered by the flow of the current and the way the poles of the electrodes are placed.

It is not possible to effect a cure by the use of bromides alone—not by any means, but many think so. The patient, in the first place, in many instances, is not carefully examined; is placed upon bromide and electric treatment at once, as soon as the diagnosis is made, without respect or regard to the exact mental phenomena that is taking place within the structures of the brain at that particular time, or without knowing or understanding why that condition is present. Naturally enough, the results are negative, and that

is the first reason why it is considered incurable. The second reason is because pains are not taken in the first and subsequent examinations to ascertain what mental phenomena are taking place within the cortex and giving rise to that particular stage of the disease at that time, and what is likely to follow. The third reason is that most practitioners believe the treatment of all epileptics to be directed alike, therefore, the examinations are shallow, and the patient does not recover.

Lister Building.

[Written for the MEDICAL BRIEF.]

Avoidable Enucleations.

BY S. C. DELAP, M. D.,

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On May 1, 1897, there was brought to my office a little girl, about six years of age, with a lacerated wound along the corneal margin, probably a quarter of an inch in length, the iris protruding from the gaping wound, and presenting the appearance of having been rolled, to the degree, almost, of maceration, between the lid and the ball. Twenty-four hours previously she had been using the scissors, and in an unexpected moment, forgetting for the moment that she had the scissors in her hand, she pushed the sharp blade into the eyeball, with the result above stated. Immediately I removed the protruding iris, carefully cleansed the wound and the conjunctival region with antiseptic solutions, instilled atropin, and bandaged the eye. For a month or more I saw the case daily, treating the eye after the manner just indicated. Subsequent to the first examination I found that the blade of the scissors had not only penetrated the cornea, but that the iris had been punctured and lacerated by the instrument, that the anterior capsule of the lens had been punctured, and that much of the lens matter had escaped. Of course, traumatic cataract resulted, followed by complete absorption of the lens matter. The wound of the cornea closed, with the merest trace of a scar, the artificial pupil was partially covered by the capsule of the lens. During the months following the accident there existed an iridocyclitis, with a dull pain and uncomfortable feeling in the eye and head, during which period she lost considerably in weight and was very irritable. January 7, 1899, I found that she could see objects fairly well with a thirteen diopter glass. The eye is, apparently, as perfect as the other, only the immediate friends and an oculist are likely to detect the defect.

On the morning of August 18, 1898, a young man of twenty-four came into my office with his father. Both appeared in great distress and called my attention to the left eye of the young man. It was explained that six days before he was using a freshly-sharpened pick, from which a small scale had struck his eye and penetrated the ball. In some manner it made a triangular wound along the upper and outer corneal margin, passed through the iris and entered the lens. It could not be determined with any degree of certainty whether it had passed the lens, the lens having already become opaque. A decided iritis existed, with considerable tenderness in the ciliary region. As the iris did not protrude, no operation upon this structure was needed. After thorough examination, I advised a course of palliative treatment, including sepsis and atroping, and that I would be guided by future developments as to what other measures might become necessary. Without any previous intimation of what had been the experience of the patient and his father during the six days that had preceded, I was surprised at the alacrity with which they accepted my decision, and asked me to take charge of the case. It was then explained that I was the third oculist consulted, and that both the others refused to have anything to do with the case unless immediate enucleation of the eyeball were permitted. After a month the wounds were completely healed, and after three months the lens matter was wholly absorbed. The following December I fitted him with glasses, with the following result:

R. +1.00=20/20.

L. +8.00=5.50 ax. 105=20/30.

All irritation has entirely passed away. The scar is only detected by a close examination, and he has an eye that soon

promises to be as good as any one that has passed the stage of cataract.

On August 20, 1898, a man of about forty-five, came to me with the story that nine days previously he had been pounding rock and a piece had penetrated his eye, leaving a wound almost identical with that of the case just described. On thorough examination the whole case seemed an exact parallel to the one which had preceded only two days. The same opinion was given, and the same story subsequently told as to how two leading oculists had refused to treat the eye unless he would consent to have it removed at the outset. The iridocyclitis proved much more intractable, and the adhesion of the iris to the debris of the lens was persistent, though no pain was experienced at any time during the progress of the case. After all inflammatory symptoms had subsided a loosening of the outer margin of the iris, iridodialysis, occurred. This afforded a sort of an artificial pupil and permitted him to see objects readily, and proves that an iridectomy will afford very fair sight.

A boy of ten years came to me on June 20, 1898, with a laceration of the cornea, the injury proving very similar to the one first given in this paper. The previous day he had gone to the park and was returning home, whittling a stick with his pocket knife. Without thought he stuck the blade into his left eye, lacerating the cornea, the iris, and the capsule of the lens. This was followed by iritis, cyclitis, and cataract. After discharge I saw the case again September 6, and found a very fair vision for objects, but have had no opportunity to make a definite test of the vision.

A little girl of five years was brought to me September 26, 1898, having been struck in the eye by a piece of coal. The result was an injury very similar to the one first detailed, the cornea was completely lacerated, the iris penetrated, except that it did not protrude, and the lens capsule ruptured. Palliative treatment left the eyeball so that the evidence of injury is scarcely perceptible, the sight is fair, and all evidences of irritation have passed away.

I have grouped these cases because of their close resemblance in nearly all the details. All but one had consulted others before they came to me, three had the opinion of two or more. All these opinions coincided in the urgent necessity of removal of the eye at the time of consultation. Two of them were little girls, to whom the extirpation of the eye would have meant serious deformity for life. All recovered sight, which, in case of the loss of the other eye by a similar mishap, would mean about all there is of life. None of the five exhibited at any time any symptoms of sympathetic ophthalmia. The piece of steel that penetrated the lens oxidized and disappeared by absorption, so that all danger to the affected or the good eye has entirely disappeared. The piece of rock is probably encysted, and shows no indication of future trouble. The others have been normal so long, and so completely free from abnormal symptoms, that no future danger need be anticipated. These facts indicate that the list of avoidable enucleations might, with incalculable benefit to patient, be largely increased.

1214 Main Street.

[Written for the MEDICAL BRIEF.]

Internal Hemorrhoids.

BY GEORGE J. COOK, M. D.,

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Internal hemorrhoids are a dilation of the veins followed by hyperplasia of the connective tissue which forms the pile.

It was formerly supposed that the arteries played a part in the formation of hemorrhoids, but this is not correct, and the presence of arterial blood in the pile is due to the fact that when the capillaries are dilated their function is destroyed and the arterial blood gives them a strawberry colored appearance. The dilatation is due to either a weak condition of the veins, or else there is a pathological condition increasing the blood pressure in the terminal veins of the rectum. When the capillaries dilate instead of the veins, they appear as a spot on the surface of the mucous membrane, and of a strawberry color. These are prone to

bleed, and when they do it is arterial blood which exudes. This bleeding is likely to occur during straining at stool. I think this explains the mistake made in former times regarding the arteries in connection with internal hemorrhoids. Many even believed that the arteries dilated and formed a part of the pile.

Regarding the radical treatment of internal hemorrhoids we have first the injection of hemorrhoids with some strong astringent caustic. And while this treatment is considered radical, I believe it should be spoken of as palliative, because in the majority of cases the piles return. It has been estimated by those who have carefully examined the statistics that about four years is the average length of cure in these cases.

Removing the hemorrhoids by clamp and cautery or excision is radical treatment. Where all the piles are removed there is no danger of recurrence.

To the mind of the laity almost every rectal condition is classed as piles. A careful examination is necessary, then before accepting the patient's statement that he has hemorrhoids. Not a few of the textbooks advise the surgeon to give the patient an injection and let the piles strain out at stool. This is the worst possible way to begin, as the large piles will appear and the smaller ones be overlooked, particularly the small, bleeding internal piles which will not collapse at all. I examine for piles through a tube speculum, not the ordinary speculum, but one specially adapted for this work. One side is longer than the other, and has an opening one and one-half inches in length. A plug passes in to the rectum as easily as the finger, and protects the distal and proximal end of the oblique opening, and does not irritate the patient. This speculum, when passed into the rectum, can be turned around, and be revolved very easily. A bladed speculum cannot be turned round, and the sharp edge will cause the patient trouble. It requires a headlight similar to that used in throat work, and this, with a good lamp, is all that you need in making your diagnosis. The long edge of the speculum acts as a retractor to hold off the opposing sides of the rectum, and by pressing against the side of the rectum the folds can be spread out very nicely, then by revolving it once around gently you can thoroughly examine one and one-half inches of the rectum, and the speculum may be withdrawn in the same manner. The speculum stretches the walls of the rectum very thoroughly, and the piles fall into the opening. In passing the speculum up the blood is squeezed out, and the pile will resemble a fold of mucous membrane. To determine the size of the pile it is not necessary to fill it with blood. By using this method of examination, with the speculum, it is not necessary to cause the patient any pain, and you can see the small piles as well as the large ones.

To treat hemorrhoids by the injection method you will need a long needle which fits into a hypodermic syringe. The syringe I use has side needles to it, but any hypodermic syringe will answer the purpose. Various authors give various formulæ for this injection, but the best is carbolic acid. Some advise very strong injections, and others very weak. I prepare a 20% solution of carbolic acid, fill a syringe carefully, everything being aseptic, and inject from two to ten minims. A small pile may receive two minims injection and a large one ten, according to the judgment of the operator. Most authors will advise the operator to have the patient strain the piles out, but, as stated before, this strains out the large piles and not the small ones. Every blood vessel in that pile will then be distended to its utmost, and after injection if you try to force that distended pile back through the sphincter, it cannot be done without forcing some of the fluid into the surrounding veins, and in that case, the patient is exposed to one of the great dangers of injection, that is, blood clot, which may pass up into the liver and an abscess result.

To avoid this we inject the piles inside the rectum. The blood can be squeezed out by a little manipulation with the speculum, the pile can be caught with forceps, the surface made antiseptic, is ready for injection which is done by inserting the needle into the side of the pile, not into the top. If you run the needle too far back you will throw the injection into the connective tissue, but by inserting it into the side of the pile you can

see when the edge of the needle is near the center. The quantity of fluid injected is governed by the size of the pile. As soon as the injection is made the pile becomes edematous, and if a drop comes out, it is wiped off with cotton, the speculum withdrawn, and the work is over. A few drops of oil of olives (and if there is complaint of pain on the part of the patient—add one-quarter grain of morphia) may be spread over the incision. The patient is instructed to lie down and keep quiet for a day or two.

The patient should be prepared for this treatment by having his bowels move every day. If the bowels are constipated any good laxative mineral water may be given.

If there are many piles, it is not wise to inject too many at each operation. By waiting four or five days you can inject the remaining piles much more satisfactorily than if they were all treated at one operation.

A 20% solution of carbolic acid will sometimes cause a sloughing, but this need give rise to no anxiety, and it makes the cure much more permanent. In the majority of the cases there is a shrinking due to the action of the acid. The sloughing, however, gives no pain or trouble. It is wise to inform your patients that this method of treatment is not a radical cure, and the relief may not be permanent; that it is more than probable the piles will return inside of four or five years.

In patients whom we do not wish to anesthetize by reason of unsatisfactory heart conditions, this method is advisable. I have never experienced any difficulty in the use of this method.

Among the radical operations the most important is that of the clamp and cautery. The patients are prepared in the usual way, the bowels thoroughly cleaned out by the administration of an ounce of castor oil. If the bowels have not moved promptly I give an ounce of saline solution, to eliminate the gas, a high injection is given two hours before the operation.

You will need for this operation four pile forceps of a special kind, which are much better than the usual sharp tooth variety. The latter forceps would tear the pile and start it to bleeding, this the special pile forcep will not do, and it is applicable to either a large or small pile. It has been my experience that the patient requires very profound anesthetization, more so, perhaps, than in any other surgical procedure. I have the patient placed in the left side Sims' position. My first step is to dilate the sphincter muscle, which must be done slowly, a rapid stretching will tear the fibers and weaken the muscle. The pile is caught up with the forceps and drawn down and clamped. If this is properly done there is nothing but the pile proper exposed. Before beginning the operation be sure to see that your cautery is in working order.

Willoughby Building.

[Written for the MEDICAL BRIEF.]

Personal Experience with Whooping Cough.

BY CLAY S. MERRIMAN, M. D.,
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Whooping cough is an acute contagious bronchial catarrh supposed to be caused by a special germ producing violent paroxysms of coughing. This cough usually precedes the "whooping" by about two weeks, the "whooping" stage usually lasting from six to eight weeks.

The disease is confined to no particular age. I have observed it in adults very late in life, and in one instance, in a child at birth, whose mother was suffering from whooping cough during confinement. There is no doubt, however, but the disease occurs most frequently in early life, the younger the child the greater the danger. I have long regarded it as one of the most dangerous diseases of childhood, largely because of its complications; it has been my lot to witness many of these in my own practice.

The most frequent complication, perhaps, is convulsions. Just why a child with whooping cough has convulsions has not yet been determined. As to the exact lesion produced in the brain, various authorities differ, at any rate it continues usually until it destroys the life of the patient.

I have seen several cases of hemorrhage of the brain. I recall one case in particular—a little boy was seized with

paroxysms of coughing in the night which produced hemorrhage of the brain, causing diplegia, from which he never recovered but still continued to live.

I have seen many serious cases of epistaxis and hemorrhage into the conjunctiva of the eye. Also a few cases of hernia and prolapse of the rectum.

Pneumonia not infrequently complicates the disease, and carries off the patient. Atelectasis and emphysema are also complications which have come under my observation.

Quite frequently there is persistent vomiting, producing profound emaciation, and in a number of cases I have seen it cause death from starvation.

The diarrheas accompanying this trouble are very difficult to control.

I saw one case in which I am satisfied that such a change took place in the brain as to cause epilepsy; the first attack of epilepsy occurring just as the little patient recovered from whooping cough. The child never recovered from the epilepsy, and a few years later was a hopeless idiot.

Strange to say the majority of people are inclined to regard this disease too lightly. Even the medical profession being content to "pass it over" and not subject the patient to treatment, believing that nothing can be done but to "whoop it out." This disease is just as amenable to treatment as most disease conditions.

Whooping cough is supposed to be caused by a germ which lodges upon some point of the mucous membrane of the respiratory tract. This germ seems to thrive best when the mucous membrane is moist, and produces an irritation causing the cough. Therefore if the mucous membrane is rendered dry the life of the germ is shortened, hence we should use large doses of atropia to produce this effect upon the mucous membrane; combining with it an opiate which lessens the irritability of the nerve supplying the respiratory tract. In addition nerve sedatives, such as gelsemium, should be included in the treatment. If there is any tendency to convulsions, large doses of the bromides should be given to protect the brain from congestion caused by the violent paroxysms of coughing.

When the germ lodges high up in the respiratory tract much benefit can be derived by swabbing the throat; but if the disease has existed long, and the germ lies deep within the tract, swabbing will be of no avail.

By following along these lines of treatment, beginning early, the cough can be practically controlled in about two weeks in the vast majority of cases. Of course, this treatment will have a tendency to constipate, and we must not forget to administer drugs to counteract this effect.

The diet should be plain and nutritious in character, the patient should be fed more frequently than usual so as not to overload the stomach, which might happen if he were fed only three times a day.

Patients will do much better if kept in the open air and sunlight the greater of the day.

2511 Forest Avenue.

[Written for the MEDICAL BRIEF.]

A Few Notes in Regard to the Treatment of Syphilis.

BY EUGENE CARSON HAY, M. D.,

Fellow of the American Medical Association, Member of the American Academy of Medicine, Urological Society, National Association of Military Surgeons; Member of the Medical and Tri-State Medical Society, etc.
Hot Springs, Ark.

In the treatment of syphilis at Hot Springs the physician has one great advantage, in that the patient can consume a large amount of mercury and iodides without distressing his system, and the patient being away from home and free from business cares, has nothing to do but follow out his physician's instructions, and thereby refrains from excesses or overwork.

My observation here leads me to believe that the majority of physicians do not push the treatment far enough. Too frequently when the luetic manifestations have disappeared and the patient feels well, he is allowed to pursue too mild a course of treatment. Mercury is, of course, our specific, but I consider an internal treatment for three years insufficient to completely eradicate the disease.

I consider inunctions the very best form of treatment, injections next, and lastly internal administration of mercury. In al-

most every instance where sequelæ arising from syphilis follow the attack the patient will give a history of mild treatment during his course, if not very indifferent treatment.

We rarely see the disease in its primary stage at the Springs, most of our cases being of the tertiary form, and in the secondary stage. Invariably they have been under the internal administration of mercury, and usually the treatment not long enough continued. If given hot baths immediately and large inunctions of mercury, the symptoms will rapidly subside in two or three weeks, although the patient may have been suffering for two or three months before his arrival. The internal administration of mercury, on account of its ill effect upon the stomach, usually causes stomatitis in a short time, and this is largely avoided by the inunctions method. I believe that syphilis should be treated by inunctions of mercury until the active symptoms are obliterated. At the expiration of that time a period of rest should be permitted for possibly a month or six weeks, then another period of medication again followed by a period of rest.

One of the most important facts in the successful treatment of this disease is the proper care of the teeth and gums of the patient, and his bowels must be kept in a healthy state, as any derangement in nutrition will immediately manifest itself in the condition of the disease under treatment.

We use here almost exclusively the fifty per cent ointment. In a great many selected cases I use the injection of mercury, generally the silver salts, one-fourth grain doses every other day. On account of the pain produced by the insoluble salts I rarely use them, except in selected cases. Iodides should be used in all stages of syphilis, except the second. If, however, the patient suffers during the latter stage from nocturnal headaches, rheumatic pains and violent throat ulcerations, the iodides may be administered in the secondary stage. Under these symptoms the iodides, with the rubbings, will relieve the pain much more rapidly than when mercury is used alone.

It is rarely necessary to give iron during the secondary stage of syphilis, even though an active anemia is in progress, as this rapidly subsides under specific treatment.

[Written for the MEDICAL BRIEF.]

A Plea for Conservative Surgery.

BY JOSEPH JOHNSTONE, M. D., O. D.,

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Case 1.—A. G., a locomotive engineer, was brought to my office at night. He said, while shunting his train back and forth on the side-track for the purpose of coupling on more cars, he stepped from the cab for the purpose of making a connection, while the engine was in slow motion, but by some mistake or other of the fireman in charge, he moved the engine too suddenly while the engineer was between the cars, and the consequence was that he was caught between the buffers, his right hand and arm being crushed and lacerated in a shocking condition. The hand was torn from its socket, entire dislocation and fracture of the wrist, the cuneiform bone hanging only by the flesh, having been entirely torn out, the ulna and radius both fractured comminuted; the muscles torn and lacerated considerably on the lower portion of the forearm, the humerus also fractured just over the rough deltoid impression, and the flesh much lacerated all around and about the fracture. The man, although having lost a large amount of blood, was yet strong and in fair condition, although some hours had elapsed since the accident. After a careful examination of the case, I was satisfied that amputation was necessary, but after a second and very careful exploit of every part of the arm and its condition, I concluded that perhaps conservative surgery was best and I might save the arm if I followed the lines of all antiseptic methods, as taught by Gerster. I explained the situation plainly and without reserve to the patient and those interested in him, and they consented that I should try to save the arm. It is true that many parties condemned the treatment and began to blame me for adopting any such

method; that in the case, amputation of the arm was the only proper course to pursue; therefore, in the face of adverse criticism I determined to do all that antiseptic surgery could. I at once separated the cuneiform bone, as it could not be returned to its place, thoroughly washing out all parts of the wound with a solution of hyd. bichlor., replaced all bones in their proper places, took away small fragments of bone, closed the wounds with strong silk antiseptic sutures, leaving, of course, sufficient openings for drainage. I dressed all parts with iodoform, after a good application of peroxide, and placing over the same five per cent iodoform gauze, and then placing the arm on two long splints, the entire length of arm and hand. The case was carefully attended for about seventy days; pus formed in several parts near the wound, which I always opened and evacuated, cleansing carefully and filling each opening with five per cent iodoform gauze. He was placed on a tonic treatment of quinine and iron sesquichloride. He made a good recovery with quite a useful hand and arm and is now again working as before, as engine driver on a railroad.

Case 2—J. R., brought at night from a long distance, suffering from incised wounds and comminuted fracture of the ulna at about the middle, an incised wound made with a machette, commencing near the shoulder, down the arm on the dorsal side for the length of seven and one-half inches, penetrating through all tissues to the bone, which, after a thorough cleansing with antiseptics, was closed with nine sutures and then dressed with gauze and iodoform. The large wound over the ulna looked very bad, and the bone entirely severed. I took away some fragments of bone, reset the bone, cleaned out the wound, which was six and a half inches long, closed the same with silk sutures, leaving opening for drainage. The condition of the forearm at first examination seemed that amputation was really the only proper procedure, but after mature consideration, I considered that conservative treatment was perhaps best, provided I could save the member. Careful dressing every day under strict antiseptic measures, after sixty days duration was successful, and the patient had again a very useful hand and arm, with perfect movement of the fingers, although a little stiff, which time, I am sure, will correct.

My object in reciting these cases is simply to show that the knife is not always proper, even under adverse conditions; that many a member can be saved to the patient if the surgeon has patience and time and is clean. Pus and its myriads of germs lose their terror under the strict and constant use of proper antiseptics. Follow the teachings of the great "Gerster" and hoist your banner on the solid rock of Listerism.

"Palma non sine pulvere,
Labor omnia vincit."

[Written for the MEDICAL BRIEF.]

Malnutrition as a Means Furnishing the Soil for the Disease Tuberculosis—Fat Foods in Its Prevention and Cure—as Pointed Out by the History and Literature of Tuberculosis of all Centuries.

BY THOMAS BASSETT KEYES, M. D.,
Chicago, Ill.

(Continued from page 590.)

Bernhard Baehr, M. D., 1869. "The Science of Therapeutics." According to the principles of homeopathy, page 658, Vol. II: "The formation of these deposits or tubercles depends in most cases upon peculiar conditions of the organism with which we are almost unacquainted; it is very questionable whether tubercles can ever be formed without some constitutional anomaly. In almost every case tuberculosis can be demonstrated as developing itself under the following circumstances: It may result from a deficient supply or the bad quality of the food in the same manner as has been indicated for scrofulosis."

Dr. Felix von Meinemeyer, 1872. "A Text-Book of Practical Medicine." "That feeble and ill-nourished persons should be in far greater danger of becoming consumptive than vigorous, well-nourished ones, will not appear extraordinary from this point of view." Daily experience

teaches us that a bad state of nutrition is usually accompanied by a feeble power of endurance of noxious influences. "But delicacy and liability to pneumonic and other inflammatory disorders are not the only distinctive marks between feeble, ill-nourished subjects and those who are well-nourished and strong. All the inflammatory derangements of nutrition occurring in the former class give rise to a very profuse formation of young, indeterminate and perishable cells. It is said of such persons, that their flesh does not heal; that is, that a trifling wound is to be followed by severe irritation, and copious suppuration of the wounded part. This peculiarity is partly attributable to an increased irritability which accompanies constitutional weakness, and partially to the fact that badly-nourished or ill-developed organs when inflamed are more prone to the formation of cells of a decrepit and perishable nature, than to the formation of such as are capable of development into new tissues." "Among the influences by which liability to consumption is acquired, or by which a congenital predisposition to it is aggravated, that of an insufficient or improper diet stands first. Feeding a suckling babe with bread, pap, etc., instead of mother's milk may sow the seeds of the malady. An erroneous regime is often kept up throughout the entire period of childhood. The child is ill-fed (*verfuttert*, as the laity say,) and consequently acquires a feebleness and susceptibility to disease identical with a scrofulous predisposition. The comparatively greater prevalence of consumption among the poor than among the more well-to-do classes is in a great measure dependent upon the wretched diet of the former, which consists chiefly of vegetables." He recommends cod liver oil.

Ziemssen, 1875, "Cyclopædia of the Practice of Medicine," Vol. XX, page 488: "Bad air and improper food generally go together, and are the common causes of the high percentage of mortality of consumptives among the poorer classes in large cities." Page 492: "Food of poor quality promotes the occurrence of phthisis, not only by inducing inanition, etc." "The poorness in quality of the food exerts especially an indirect influence upon the production of consumption." Page 609: "When fat is used in an easily digested form, such as cod liver oil, good butter, or milk fresh from the cow, its presence in the affected blood vessels and lymphatics, whose endothelium forms the standing point for the microscopic miliary tubercle, may so improve the nutrition of these parts as in various ways to limit the formation process of the tuberculous inflammation."

Frederick T. Roberts, M. D., B. Sc., M. R. C. P., 1876, "The Theory and Practice of Medicine," page 428: "The malnutrition resulting from an imperfect supply of nutriment to the system from any cause has a powerful influence in developing phthisis, especially in the young. This may be associated with an insufficient amount or improper quality of food, or with want of power of assimilation on account of dyspepsia and various diseases interfering with digestion. Some observers have laid great stress on a deficiency of fat in the system as a cause of phthisis, either from its not being supplied, or because it can not be digested."

J. Milner Fothergill, M. D., page 185, says: "Now we know that recovery from conditions either actually tuberculosis, or tending to tubercle, is very common. In nearly half of all cadavers we find traces of the nutritive disorders from which pulmonary conditions proceed."

Niemeyer, page 188: "Especially then will tubercle manifest in those who, naturally delicate and predisposed to tubercle, reject all fat. It is well known that fat is wanting in tubercular tissue; that, in other words, the absence of fat is a great cause of tuberculosis degeneration in inflammatory products. Consequently, a rapid cell formation in such individuals is commonly followed by tuberculosis degeneration. Such is the actual history of much of the tubercular consumption we see around us. Dampness of subsoil may exert much influence, but the unwise yet prevalent custom of permitting children to leave all the fat of their meat on their plates untouched is a much more powerful factor. It is just those slight fragile forms

to whose system fat is so absolutely necessary for healthy tissue building, that reject fat most persistently; and where the parents should most steadfastly insist upon their taking fat in some form or other. When once they can be induced to take fat, the dislike to it vanishes, and not rarely becomes transformed into a positive craving for fat, in which case a cure, or its equivalent, is not rarely achieved. Such is one of the greatest of our curative agents; it is equally potent as a preventive measure."

M. Charteris, M. D., 1878, "Handbook of the Practice of Medicine, page 136: "Phthisis (pulmonary consumption)—The general symptoms are first dyspeptic—want of appetite, a faulty digestion, a marked aversion to all forms of fatty foods."

J. Hilgard Tyndale, M. D., 1878, "The Present Status of the Pathology of Consumption and Tuberculosis," page 1: "Consumption decline must needs exist where there is either too great a waste or a lack of supply."

John Huges Bennett, M. D., F. R. S. E., in "Reynolds' System of Medicine," 1880, page 119, Vol. II: "In the higher classes two causes more especially are found, viz., an hereditary taint, and improper nutrition. On looking at the whole train of causation, it seems to me certain that they may all converge in malassimilation or deficiency of food. As far as the strength of the economy and constitution, it matters little whether deficient vitality be caused by the food being deficient, or if abundant, its not being digested;" page 121, "And here we must remember that all food essentially consists of albuminous, fatty, and mineral constituents, which are reduced in the alimentary canal to a fluid condition by the mechanical triturating action of the teeth, jaws and stomach, as well as by the chemical solvent acid of alkaline and acid juices. An observation of the peculiar dyspepsia, which so frequently accompanies tubercular disease, will satisfy the observer that it depends upon excess of acidity in the alimentary canal, which favors the solution of the albuminous and mineral matters, but is opposed to the emulsionizing of fat." "In youth the indisposition to eat fatty substances is well marked, and among the ill-fed poor it is fat which is the most costly ingredient of food. In either case it is the non-assimilation of the fatty elements of food and their diminution in the blood, while the albuminous elements are comparatively in excess, that gradually interferes with nutrition; the molecular basis of the chyle is impoverished, the elementary molecules so necessary for the formation of healthy blood corpuscles, are diminished, the liquor sanguinis, consequently, is poor in fat, but rich in albumen; the entire growth of the constitution, as a result, is affected, and its powers rendered weak; lastly, when exudations do occur, more especially in the lung, they are of an albuminous character, exhibit slight power of transformation into cells, and only produce that slow abortive nuclear material which is called tubercle. Such is the theory of phthisis we consider most consistent with all recognized facts connected with the origin and progress of the disease, the correctness of which is still further supported by what is now known, first, of the chemical constitution of the food, and the transformations it undergoes in the body; second, of the relations which exists between digestion and the working powers of the individual, and, third, as we shall subsequently see, by what experience has taught us of its successful treatment." Treatment, page 133: "All good food must consist of a proper mixture of albuminous fatty and mineral principles." "The two former holding the third in solution, after being prepared by the digestive fluids, the chyle, out of which the blood is formed. In phthisis, however, the process of chylification is impaired; the fatty constituents of the food are not separated from it, and assimilated, or they are deficient, as very commonly result from a dislike to fatty substances. In either case the blood abounds in the albuminous elements." "To induce health, it is necessary to restore the nutritive elements which are diminished, and this is done directly by adding a pure animal oil to the food. By so doing we restore the balance of nutrition, which has been disturbed; respiration is again active in excreting more carbonic acid gas; the tissues once more attract from the blood the elementary

molecules so necessary for their maintenance; the entire economy is renovated, so that, while the histogenetic processes are revived, the histolytic changes in the tubercle itself are also stimulated, and the whole disappears. We have previously seen that food rich in fat will occasionally produce these effects, but then the powers of the stomach and alimentary canal must not have undergone any great diminution. In most cases, however, the patient is unable to tolerate such kind of food, which is not digested." Under these circumstances, he recommends cod-liver oil, and further says, "By giving it we save the digestive apparatus, as it were, the trouble of separating fluid fats from the food. By giving the oil directly, a large proportion of it enters the system, unites with albumin, and thereby forms the molecular basis so essential for the chyle. Since the days of Liebig, chemists have generally supposed that albumen forms the basis of the tissues, and is a flesh former, while fat is necessary for respiration, and by its decomposition furnishes heat. An unacquaintance with histology is the cause of this error, fat being demonstrably necessary for the development and support of muscle and of every tissue." "Hence, the universal craving and necessity for fat by the vigorous and working man, whilst a dislike to it is a strong symptom of inherent weakness, and an incapability of assimilating it the chief cause of tubercular disease."

Henry Hartshorne, A. M., M. D., 1881, "Essentials of Practical Medicine," page 34: "Tuberculosis may be pathologically defined as a constitutional tendency to the formation of blood, the plasma of which is defective in organizable capacity; so that in nutrition, instead of healthy tissue, it forms in one, or very often many of the organs, aborted blastema." Page 233: "There has been discovered, as yet, no specific to arrest tuberculosis. But cod liver oil and alcohol, and in lesser potency, iron, quinine, and other tonics, in a certain number of cases, do manifest an important conservative and restorative influence and palliation of symptoms." "My confidence in the frequent value of codliver oil is based chiefly upon observation. Three individuals in one family, for example, under my care, notwithstanding a well-marked family tendency (shown by the previous death by phthisis of three sisters, their mother and uncle), recovered from incipient consumption under the use of the oil. Other cases, much more commonly, have life prolonged by it. Unfortunately, however, in quite a considerable number of persons, the stomach turns against cod liver oil."

Alonzo Palmer, M. D., 1882, "The Science and Practice of Medicine," Vol. II, page 285: "The causes of consumption may be divided into those which act locally upon the lungs, and those which act generally upon the system at large." Page 290: "Diseases of the stomach and bowels, leading to imperfect nutrition and general depression, are not unfrequent causes." Page 322: "The leading indications for the treatment of the disease when actually present, are, first, to improve faulty nutrition, considering this in its largest sense, including digestion, excretion, elimination, and purification, as well as building up the tissues. Faulty nutrition is at the foundation of the tuberculosis cachexia." He recommends cod liver oil. Among other things, page 326, says: "It not only, when useful, contributes to the production of fat, but it modifies morbid states, and contributes to the production of healthy nutrition. Under its use the physical signs sometimes improve, the progress of the disease is very often retarded, and the symptoms certainly very often improve." Says Dr. Williams, of cod liver oil: "This article, when taken into the system in sufficient quantities and for a sufficient time, acts as a nutrient, not only adding fat to the body, but also promoting the healthy growth of the protoplasm and of the tissue cells, and in some way as an alterative counteracts the morbid tendency to the proliferation of the decaying cells of pus, tubercle, and kindred plastic matters."

I. J. M. Goss, A. M., M. D., "Practice of Medicine," page 132: "An hereditary tendency or predisposition to this disease exists in many constitutions, but it is possible that an acquired debility of the system (which may be developed by various causes) may at times give rise to it." Page 134: "Cod liver oil has long been used, rather routinely, as a kind of specific."

Roberts Bartholow, M. A., M. D., L.L. D., "Practice of Medicine," page 428: "As phthisis is pre-eminently a wasting disease, it is highly important to put the organs concerned in nutrition into the highest state of efficiency. In tubercular and fibroid phthisis, among the earliest symptoms are stomach disorders, poor appetite, especially repugnance to the fatty elements of food." Page 429: "The utility of cod liver oil in incipient phthisis is very great."

Angel Money, M. D., London, "Practice of Medicine," page 142: Treatment: "As much fat as possible should be taken by the patient. Malt and cod liver oil may agree, or either may be taken alone."

John Mason Good, A. M., M. D., "The Study of Medicine," page 31, Vol. II, says: "Dr. Wilson Philip has formed another variety of consumption to which he has given the name of dyspeptic phthisis, and which he supposes to be produced by a previously diseased state of the digestive organs, in which the lungs ultimately participate." "In by far the majority of cases in which both the lungs and the digestive organs are affected, the affection of the digestive organs precede that of the lungs."

Wm. Osler, M. D., "The Principles and Practice of Medicine," page 250: "Treatment, general measures. There are three indications; first, to place the patient in surroundings most favorable to a maintenance of a maximum degree of nutrition."

Austin Flint, M. D., L.L. D., "Practice of Medicine," seventh edition, page 107: "Impaired nutrition denoted by diminished weight is frequently one of the earliest symptoms. As a rule, reduction in weight continues so long as the disease is progressive; on the other hand, the disease may be considered as non-progressive if the patient be not losing weight, and still more if he be gaining in flesh." Page 111: "Causation: The causes of pulmonary phthisis relate, first, to the specific micro-organism, the bacillus tuberculosis; and second, to the conditions which constitute a tuberculous predisposition or diathesis. The disease is never produced without the parasite, but the efficiency of this agent depends on the predisposition or diathesis." In his treatment with regard to cod liver oil, page 128, he says: "All clinical observers unite in according to it more or less value. Its usefulness in a certain proportion of cases can hardly be doubted. Of the cases of arrested or non-progressive phthisis which I have analyzed, in several the treatment consisted exclusively in the use of cod liver oil and hygienic measures."

Loomis and Thomson, "American System of Practical Medicine," page 836: "The measures directed to the prevention of tuberculosis may be considered under first, those which are concerned with the destruction of the widespread germ; and second, measures directed to maintain the nutrition of the individual at its maximum." Page 840: "As the healing of a tubercular process is largely dependent upon the state of general nutrition, the question of diet becomes of the first importance. Persistent failure properly to digest food is an unfavorable feature in any case."

"Twentieth Century Practice of Medicine," Vol. XX, Lartigau, page 101: "Predisposing conditions—Most certainly any condition which tends to diminish the vitality of an indivdual necessarily increases his susceptibility to tuberculosis. Clinical evidence sustains this view in a most emphatic manner." Knopf, page 238, of the same text-book, says: "Many a pulmonary consumption has been preceded by digestive disturbances or typical dyspepsia. Bad eaters are nearly always candidates for consumption;" or page 287: "Consumptives, as a rule, have small appetites, and it requires sometimes no little art to make them eat. The one important truth that they should be made to understand is that their digestive powers are far greater than their appetites indicate." "To eat a great deal of butter and cream is especially to be recommended to pulmonary invalids." Page 288: "There is little fear that the patient will ever overdo in regard to the eating of butter. He should be urged to take it with all his meals, fresh or salted, whichever he likes best." Page 291: "While I do not believe in going to extremes, saying that we can treat pulmonary tuberculosis without any medicinal substances, I

think, nevertheless, that we may reduce their number to relatively few. To build up the system, cod liver oil may be given whenever the stomach can support it."

Dr. Hermann Eichhorst, 1901, "A Text-Book of the Practice of Medicine," Vol. II, page 471: "Infection with tubercle bacilli will occur the more readily if favored by contributory factors. Among these, in the first place, the conformation of the body constitution is to be included. Experience has shown that generally not thick-set and robust persons are attacked, but rather tall, delicate, pale persons." "It can be understood that the danger of infection is increased by all such conditions as diminish the resisting power of the body, including defective nutrition." Treatment, page 483, recommends first pure air and nutritious diet.

An Epitome of Medicine, Surgery and Obstetrics, by A. Stille, M. D., D. H., L.L. D., and R. A. Penrose, M. D., page 127: "Phthisis—Physical Constitution: There is a certain amount of weight to be attached to the fact of slender build, long limbs, long neck, bright eyes, narrow chest, and a general appearance of being loosely knit together." Page 132: "Cod liver oil is a semi-food. It is the drug for consumption. It is a concentrated and digestible food and supplies fuel and spares tissues."

Wm. Pepper, M. D., L.L. D., "Text-Book of the Theory of the Practice of Medicine," Vol. II, page 569: "For the development of tubercular inflammation in any part of the body, there are necessary the proper predisposition of the individual." Page 579: "The curative treatment of chronic miliary tuberculosis is embraced in two principal things, climate and feeding." The feeding consists in enabling the patient to eat and digest considerable quantities of wholesome food and fats."

From the foregoing extracts it will be seen that from the earliest times to the present date that the disease, tuberculosis, has been best controlled by building up nutrition, and that this nutrition is best supplied in the form of fats and oils. It may be asked: Why do not all improve when fed upon fats and oils? and I would answer by saying, that with those who have not formed the habit of assimilating oils, that weeks of constant training are often required, and consequently, in these cases, the good results are not obtained that are in those cases who assimilate the oils and fats. Instead of the oils being assimilated with many people, they are broken up into fatty acids and glycerine and expelled, never entering into the system, where they would be used and then expelled in the form of carbon principally from the lungs. A study of the digestion of fats and assimilation of oils shows that they enter the blood practically in the same manner as if they were injected into the tissues and there assimilated into the blood. In June, 1904, I described in this journal, under the title of "The Cure of Consumption with Subcutaneous Injections of Oil and Its Digestion by the White Globules of the Blood," my method of treating consumption, and results obtained since then have been most favorable. The advantage which subcutaneous injections have over alimentation is that they must be assimilated, and by giving one ounce daily by subcutaneous injection, it is common for patients to gain ten pounds a month for several months, until finally all symptoms of the disease disappear. With those who do not gain so rapidly often the symptoms disappear more quickly, and it would seem that the super-nutrition was used almost entirely to heal the diseased lung, instead of being laid up in the form of adipose tissue. The proof and evidence that oils and fats have always been most beneficial in the treatment of consumption is given throughout the literature on the disease from earliest writings and clinical evidence, the results which I have obtained by injecting oils subcutaneously prove it to be the greatest of all therapeutic agents in the cure of consumption. I shall endeavor, in a series of papers, to show how this treatment meets every indication in the therapeutics of the pathology of consumption, and I shall then show the clinical evidence.

Please find enclosed one dollar for the good old BRIEF.—W. D. RICE, M. D., Lockport, N. Y.

[Written for the MEDICAL BRIEF.]

Divorce and the Attitude of the Ministry—Our Diminishing Birth Rate—Decline of Rome and Our Civilization Compared.

BY GEO. H. TICHENOR, JR., A. B., M. D.,

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Many of the States have hastened the separation of husband and wife by enabling them to railroad proceedings. Such newspaper announcements as the following is typical of the times:

"SPRINGFIELD, ILL., April 21, 1905.—Bishop Seymour, at the Good Friday service at the Christ Episcopal Church, today made an indirect attack on the Illinois Senate in an address, vigorously denouncing the divorce evil, by stating that if people seeking divorce did not know that they could re-marry to some one else as soon as they had secured a divorce, there would be less divorce proceedings instituted. The Senate had, by a majority of one, Lieut. Gov. Sherman casting the deciding vote, passed an amendment to the House divorce bill, permitting a divorced person to re-marry at once instead of waiting a year, according to the provisions of the House bill."

Bishop W. C. Doane, of Albany, in speaking of the need for more stringent divorce legislation and a higher moral and social standard, after calling attention to the fact that from 1867 to 1886, the only period covered by competent statistics, nearly 700,000 persons were divorced in the United States, continues: "Comparatively speaking, it means more divorces in one year in America than in all Europe, Australia, and British domains. It means 2,000 times as many divorces in the United States as in Canada, the population being fifteen times as great. It means in some States one divorce to every eight, in one State one divorce to every six marriages, and as a concentrating instance, it is true that 300 divorces were granted in Chicago in one day. This can only mean that there is widespread failure to recognize the sacredness of marriage; that it is beginning to be considered more or less a contract, which, because it is entered into lightly, can be escaped easily at the convenience or caprice of either party to it."

The New Testament is so plain in forbidding the re-marriage of divorced couples, except in the case of adultery, that no Christian minister of any denomination will knowingly re-marry a divorced person. This being the case, the fault of the state of affairs lies principally with the ministry in not ostracizing any member from its ranks for such gross misconduct and immorality. The ministry sets the example, and the people, being partly influenced by the customs and manners of the day and their associations, follow the *l'esprit de corps.*

Our Diminishing Birth Rate—Children are naturally in the way of these people who expect to pass through several divorce suits. As we have stated, the largest families are among the agricultural and working classes; the smallest are among the rich and fashionable, fortunately for the race and the child itself, for only strong and healthful children can come of fresh, young and vigorous parents. The usual college graduate is also non-productive, or if so unfortunate as to have one child, it is invariably neurotic and delicate, as the modern system of over-taxation of the nervous system from confinement and over-study and sometimes added detriment of improper gymnastics, exhaust the potential energy of the nervous system, and, like any other defect in the organism, is either transmitted directly, or the descendant has a tendency to degeneracy in that direction. This statement can be proven by the fact that the world's greatest men in their respective vocations and avocations in different ages left no effective descendants, except in cases where the wife was mentally, physically and morally up to the physical race standard.

Cæsar, Washington and Napoleon left no one who bore their names. Every school boy and girl knows the history of their families.

In proof that the wife plays the most important role in preserving the physical standard of the race, of eminent men's sons in this country, who have made good

records, the presidents' sons of the United States lead the sons of any other class. Fifty per cent have secured distinction for themselves. The presidents' sons of unusual distinction are John Quincy Adams, congressman, diplomat, president; Charles Francis Adams, diplomat and congressman; John Van Buren, orator and politician; John Scott Harrison, son of one president, father of another; Robert Tyler, register of the Confederate Treasury; Richard Taylor, lieutenant-general in the Confederate army; Robert Todd Lincoln, cabinet minister, diplomat, captain of industry; Frederick Dent Grant, diplomat and soldier; Henry A. Garfield, university professor; James R. Garfield, civil service commissioner.

Again, if we study carefully the rise and fall of different dynasties at different periods of the world's history, we will find this to be the case. Take, for instance, those hardy and rugged soldiers of William the Conqueror, of England, who were made knights and nobles by him, and founded families, most of which died out owing to intermarriage with weaklings and relatives, and the titles are held by collateral relatives. This is the curse of royalty. Where ruling families are preserved through long series of years, the race degenerates to such a degree that new blood is necessary to carry on public affairs. Lastly, it is an invariable law that the lower the civilization the greater the birth-rate, due to the fact that the savage is strong and healthy, and the weaker members of the tribe die off from lack of proper attention and care. It is the universal law of the survival of the fittest.

The question which presents itself to us is what is going to become of our country if this condition continues? Are we to have the same conditions as exist in France? How can we expect to keep abreast with the other civilized nations if this state of affairs is allowed to grow until it has infected the greater part of the masses of the country?

The diminishing birth-rate and frightful infant mortality are indisputable signs of decay of any nation. When Rome began to lose its physical vigor and native child-birth diminished and infant mortality increased, rottenness had already infected the greater part of its population, long before Nero gave public exhibition of its many forms. Let us stop for a moment and compare the conditions which led to the fall of the Roman civilization with our present status. The Romans lived on their accumulations. The proletarians were supported in the capital in idleness, like some of our capitalists in some of our large cities, who have no other occupation other than having a good time—a form of luxury which is the most costly of all indulgences, for it corrupts all manners, perverts all the offices of nature, wastes all the powers of labor, and has its complete result in poverty, ignorance and political servitude—using the words of Walker, in his "Science of Wealth." Gibbon estimates that no state can, without soon becoming exhausted, support more than about one-twentieth of its able-bodied male population in idleness. The census report of 1900 of the United States showed the population of the mainland, leaving out the colonies, to be 76,303,000. Some experts think that in 1910 it will be about 90,000,000. Those engaged in gainful occupations were 29,073,233, which constituted one-half the population ten years of age and over, and nearly two-fifths of the entire population. Of these, 4,833,630 were women and 1,750,178 were children. Those of foreign birth aggregating 5,851,399, or one-fifth of the total number of gainful workers. The 23,956,115 men engaged in gainful occupations are divided as follows: In agricultural pursuits, 9,458,194; in professional service, 833,154, and in domestic and personal service, 3,592,581; in trade and transportation, 4,274,659; in mechanical pursuits, 5,797,097. From these figures we see that there is no idleness in the masses, but only in the classes. On the contrary, there is too much work and not enough rest and recreation. When the Roman conquests ceased, and the amount of wealth expended in enjoyment exceeded the limit of production, the standard of industrial prosperity fell, poverty spread throughout the empire, and the unwillingness to multiply became stronger and stronger.

The natural increase of our population is about one per cent a year; an average increase each year would be about 1,320,

000. In addition, this population adds so much to the consumptive demand of our productive industries. If it be estimated that the average amount needed by every person to maintain life is $250, then the increase of 1,320,000 in population every year means an increase of $330,000,000 in the consumptive demand. This fact sufficiently explains the enormous vitality exhibited by this country, its power of recuperation, and the growing pressure upon its producing energies. It is no wonder we are living swiftly and dying swiftly when we consider how our population is working, and ripe old age is not being attained.

Dr. B. Lagure, in his paper on "Social Hygiene in the United States," read before the International Congress of Medicine, April 19, 1905, stated that the Americans are shorter lived than the Germans. Although more temperate in the use of alcohol than the Germans, and working on an average of ten per cent shorter hours, the Americans are exhausted earlier in life. For each thousand of population, the number of persons from forty to sixty years of age are: in Germany, one hundred and seventy-nine; in America, one hundred and seventy; persons over sixty, in Germany, seventy-eight; in America, sixty-five. Using the words of Dr. Girdner, of New York, "we are driving ourselves and being driven like beasts of burden, working like dynamos all day, and playing like idiots all night." When one man dies in our large cities there are two to take his place, from the constant influx into the cities from the smaller towns and country, especially of the farming class, who have become discouraged from lack of success and to the manner in which the prices of their products are raised or lowered at the fancy of the speculator. Were it not for the influx from out of town, the death rate would be noticed.

The decrease in the population had been noticed even in the time of the republic, and Polybius says "Rome could no longer place such armies in the field as she had raised in the second Punic war."

In the time of the Græctin, unfavorable legislation had caused the number of small farmers to decrease to such an extent as to awaken the anxiety of the best men in the State, and Cæsar and his successors struggled earnestly to remedy this evil. According to Dr. Leighton, Livy speaks with wonder of the armies that had fought in former times in Latinum, where now only a few slaves tilled the land that had once been the homes of so many hardy warriors. This decrease in the population, combined with the disinclination to military service, rendered it impossible to keep the native army on foot. During the reign of Augustus, several laws were passed encouraging marriage, and in 18 B. C., the senate decreed that marriage should be imperative in citizens of suitable age.

With us only about two-thirds of the men and women now ever marry, and the population is constantly being lowered. It seems that we need to give some encouragement in this line. However, this measure did not produce lasting results or even good effects, for, Plutarch tells us, people married, not to have heirs, but to become heirs, since they could only receive legacies in case they married. The decrease in population continued through the succeeding generations. Our forced marriages for money and the marriage of the old with the young, so prevalent now, are very similar in purpose and effect as those spoken of by Plutarch.

The Roman civilization, instead of being industrial as we and achieve the greatest success in the mechanical arts, was military, and, therefore, destructive. We have had our share of wars, to our detriment. The Punic wars and the long wars in the East gave a serious check to the increase of population. But before Italy could recover from these losses, the social and civil wars followed, and the drain of life became almost constant for nearly two centuries. Still, Italy might have recovered had not other and even more deleterious influences come into play. The importation of grain, which was sold in the market in Rome below the cost of production in Italy, caused even farming on a large scale to be abandoned, and the conversion of the land into pasture. The veterans who had been settled in colonies soon became tired of work, sold their little farms, and returned to swell the impoverished crowd in

the capital, that lived on the pittance doled out to them by the State. The result was that the rural districts had become almost a desert, tenanted by a few wild herdsmen and gangs of slaves, while the free population that had once tilled the soil wasted away under the vice and the profligacy of the capital. Infanticide and exposure of the newly-born children, crying vice of the empire and one of the causes of the decline of population in Greece, became fearfully prevalent in Rome. Ovid, Seneca and Plutarch tell us that the exposure of children, as well as the destruction of the unborn, was practiced at Rome on a gigantic scale, and, although laws were passed to encourage the charitable to rear foundlings, still infanticide was the crying vice of the Empire and one of the chief causes of the terrible depopulation of Italy.

In regard to the effect of wars, our country suffers from the same condition. Our daring, adventurous and energetic young men have joined the army at different periods of our history and been killed in the various wars. The weak, timid, inactive, wounded and crippled have always been left or stayed at home. These are the people who replenish the country. The civil war cost half a million men well above the average in physique and spirit. Had this not been the case, the South would not be so effeminate and the North so graft-rotten as it is today.

[Written for the MEDICAL BRIEF.]

The Excision of Bag-Like Folds of Skin from the Region About the Eyes.

BY CHARLES C. MILLER, M. D.,
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As middle age approaches, certain individuals suffer the development of folds of skin about the eyes, such folds markedly altering the appearance to the disadvantage of the individual. This condition, when noted below the eyes, may be in the nature of a decided fullness, or the tissues may hang in a loose fold. Such a fullness is readily and permanently overcome unless it be due to an edematous condition. An edematous or dropsical condition is sometimes seen where the patient is suffering from disease of the kidneys. Such a condition is easily demonstrated by an examination of the urine. It is not a contra-indication to operation, although it precludes assurance of a permanent result, as may be promised in other cases.

These operations can always be performed with the aid of infiltration anesthesia. For accomplishing this a hypodermic syringe, which permits of sterilization, is needed, and a very weak solution of cocaine. Some surgeons at the present day are using sterile water for local anesthesia, but such is hardly as satisfactory as the weak cocaine solutions, owing to its causing some pain when injected. A very small amount of cocaine added to sterile water will permit of painless infiltration, whereas the injection of plain sterile water is slightly painful.

The operator begins his injection along the margin of the lid. Where the skin is to be removed from the lower lid, the injection should first follow the margin of the lid closely. This part being carefully infiltrated, the entire field of operation is infiltrated. The operator begins his operation by making an incision through the skin as close to the lashes of the lower lid as possible without actually exposing the roots of the lashes. This incision should extend entirely through the skin and should be directed downward so as to enter the loose cellular tissue below the lid.

The operator now draws up the skin and measures with his eye the amount which should be excised to overcome any undue fullness or folding. This is very carefully and smoothly trimmed away with sharp scissors. The area of skin excised is usually of a semi-lunar shape. The skin margins should be smooth. Any bleeding persisting after the excision of the desired amount of skin should be entirely overcome. This may be accomplished by hot applications, by compression for a few moments, or torsion of small vessels. Bleeding having been completely controlled, the skin edges are closed with sutures of horse-hair, a continued or uninterrupted stitch being used, as the operator elects. The line of sutures will lie immediately below the lashes, and

when healing is complete, the very slight linear scar remaining is shaded by the lashes, so that it is not apparent, even on close inspection.

The parts are dressed by placing over the line of sutures a small strip of cotton. This is painted with collodion, so that it is attached to the lashes above and the skin below. It is small and inconspicuous, and the patient, after the operation, need not be confined indoors. Healing is complete in these cases in from four to six days, and after that time the stitches are removed and the parts allowed to go without dressing.

Above the eye, a fold of skin often forms, which may also be excised, after infiltrating, as previously described. Such a fold may even overhang the margin of the lid and be particularly unsightly. Such folds are also seen in the very fleshy. The excision of a fold of skin above the eye may be accomplished in the same manner as in the operation below, although, as a rule, it is better to keep well away from the free margin of the lid, so that when the eye is open, the slight linear scar left will be hidden well beneath the brow. Where the free margin of the lid is followed, when the patient looks downward, the lid follows the eye, and the slight linear scar left after the operation becomes visible.

To excise the fold well away from the free margin of the lid, the fold is picked up between the thumb and index finger of one hand and is trimmed away with sharp scissors. If the patient is unduly fleshy, the fatty tissue is freely trimmed away. The parts are then sutured with horsehair or fine silk and a strip of cotton applied and held in place with collodion.

This operative work is painless, yet at the same time the patient has been exposed to no danger from anesthetics; the amount of cocaine used during the entire operation need never be more than one-tenth of a grain, a dose which is absolutely safe.

The daily life of the patient is not interfered with after the operation. A condition which decidedly mars the appearance of the individual is overcome permanently.

100 State Street.

[Written for the MEDICAL BRIEF.]

Hay Fever.

BY M. M. FOY, M. D.,
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About this time of the year many people suffer from hay fever. The sense of prostration, the combination of weakness and irritability which accompany the unpleasant physical manifestations of the disease make the late summer and early fall a season to be dreaded by hay fever victims.

Hay fever is a vaso-motor neurosis, whether we attribute it to climatic influences, to the presence of pollen, or other dust in the air, to the generation of excessive uric acid in the system, or what.

A change of climate has been demonstrated to be the most effective means of relief. A change from a stagnant, stirless climate to a section favored with strong breezes, and having an ozone-tinctured atmosphere, braces the weak, unstable vaso-motor nerves and centers, the blood moves normally, and the congestion in the head, the general apathy, quickly disappear to the patient's great relief.

Remedies which control erethism, which tone and sustain the irritable vaso-motors, likewise give a considerable measure of relief. I have seen patients whose eyes were red and inflamed, whose nasal mucous membranes were so congested they were unable to breathe through that organ, whose coming and going was heralded by a succession of sneezes, and who complained of such languor that mere existence was oppressive, made comfortable by a few doses of a judiciously selected remedy.

As many sufferers must continue to work and can not go away for the hay fever season, any treatment which will afford them a measure of relief gives the doctor a claim on their gratitude. Soothe the irritable vaso-motors, weakened by the prolonged stimulation of high temperature and depressing atmospheric conditions. Relax vascular spasm. By so doing you equalize the circulation, and relieve the congestion in the head in a natural way. A remedy which does this, as a rule, produces a degree of diuresis, and this, in itself, is a benefit to the system.

If the urine is red, scalds during its passage, or deposits a brick-dust sediment, add moderate size doses of the citrate of lithia to your vaso-motor regulator, say two or three grains to the dose.

When the vascular system is properly innervated, congestions, pain and impaired function cease to exist. This reasoning holds good no matter what organ may be giving trouble. Of course, if the blood itself is diseased, alterative medication will be needed, but we are talking now of neuroses. A constantly increasing number of diseases are of neurotic origin. The season of the year, heredity, occupation, climate, temperament, have their determining influence in focusing disease. The relief of fundamental pathological states will improve the patient's condition, whatever name we call his disease, by giving the recuperative forces full play.

Of course, in chronic affections, where the vaso-motor nerves and centers have lost much of their vitality, the problem is more complex. In hay fever, the condition is acute, and readily amenable to treatment.

I have never had any results worth mentioning from local applications. Sprays and ointments containing menthol, cocaine, etc., give momentary relief, but they merely gloss over the trouble, and when the effect wears off, as it soon does, the discomfort is intensified.

[Written for the MEDICAL BRIEF.]

Constipation.

BY SILAS HUBBARD, M. D.,
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Byron Robinson is doing a good work in teaching us how to prevent and cure constipation. I have, at different times, mentioned in the MEDICAL BRIEF cures for constipation, and now I will mention another aid which was never published, viz., that during stool, with other gymnastics, the patient straighten his body and take a long breath, and drum on his chest with his fists, which would have two advantages, viz., that the lungs would be expanded and the blood oxidized, and the abdominal muscles are so compelled to resist the drumming that the evacuation is promoted.

[Written for the MEDICAL BRIEF.]

Medical Wonders and Medical Blunders—A Story of Facts.

BY M. J. RODERMUND, M. D.,
Milwaukee, Wis.

(Continued from page 580.)

CHAPTER XVI.

SMALL-POX.

If all that is now known about small-pox should be destroyed and there remained only the evidence of these occasional cases which spring up in the city, it would be sufficient to condemn forever every theory now held and practiced in regard to contagion. If any thinking man, who can cerebrate a thinkable thought, will look for the cause of small-pox in the right direction he will be astonished at the revelations.

To illustrate, a few weeks ago, in a small city, thirty to forty miles from Milwaukee, a poor man came down with small-pox. The city happens to be a prominent summer resort, and the fact that a case of small-pox existed among this so-called wealthy and educated class caused about as much consternation as would a half dozen mice let loose in a parlor among a crowd of girls. It seems this man had been traveling and roving about the city for a day or two, exposing everything and anything that came within his reach. He was finally picked up by the physicians and hustled into an automobile and brought to Milwaukee, passing through half a dozen small villages en route. The occupants of the automobile drove up to the city hall, marched the small-pox patient about the building until the health department was found, where the usual medical and legal ceremonies were gone through. In the meantime it had frightened some of the city officials, and the man was put back into the automobile and kept there on exhibition until the legal machinery was ready, and an order given to take him to the pest house, a distance of seven or eight miles.

According to our "scientific absurdity" it would be almost impossible for one man to do much more harm than this patient had done, yet no one suffered. No person contracted the disease. The health officer

in order to show the polished side of his scientific stupidity and ignorance, and whom, by the way, the public consider as taking great interest in their health, stated that he would have three physicians arrested for sending this patient to Milwaukee from another county, as they had found it technically to be an illegal act. This is all a bluff to tickle the public with. He will not arrest the physicians. The old story again of making the public believe that nature's laws are controlled by statute books.

Another instance where a severe case of small-pox broke out on a prominent lady living in a small city, where there had not been a case of small-pox in the neighborhood for over thirty years. The patient and family had exposed practically everybody in that community before it was discovered she was suffering with small-pox. Such instances as these occur frequently in various localities, and no matter how reckless, or how careless, or how many are exposed by these sporadic cases, does any one else come down with small-pox.

Such instances alone ought to suggest to any physician who is capable of thinking a thinkable thought that there must be some other cause than contagion when small-pox spreads over a large territory or district. If it is impossible to spread small-pox by means of contagion in one of these sporadic cases, how is it possible to do it during an epidemic? Are these cases of small-pox different from the others? Gentlemen, you cannot make an argument stick on your side of the house if the searchlight is turned on. Come out from behind your trenches and you are whipped on every side. You have not ammunition enough to make a noise. No better illustration or inductive evidence could be presented to prove the non-contagiousness of small-pox. The absolute demonstration of the cause of small-pox which I have already explained can only be a stronger proof, as well as absolute proof.

The similarity in the law of all epidemic diseases has already been made clear. The chemical analysis of the skin eruption has been proven to be the same poisons in different proportions that are being constantly eliminated in health. No impurities or poisons can be taken into the system from our surroundings. The law in disease must be the same as in health, differing in degree only. The eruption of small-pox when it is first thrown upon the surface of the body, is practically the sweat-drop with a large percentage of water evaporated. Like the pimple upon the face it goes through the same process. The pustules dry up and form a scab, as does any little pimple or wound on the surface of the body.

In short, small-pox is nothing more nor less than the excessive accumulation in the glands of the skin of the same identical products which the body is eliminating all through life. Every test will prove this to be true. If, through carelessness or otherwise, a person has sufficiently violated the laws of his being so that these accumulations take place entirely due to his own acts or under abnormal local conditions, we will have a sporadic case. Occasionally these conditions are found in the surroundings and habits of a single family. In such cases one will come down with small-pox, then another, until finally part or the whole family take the disease. Under these conditions no matter what is done the disease will not spread outside of this family. But often after a whole community has been exposed the health officers will put up a strict quarantine, and make a particular effort to loudly advertise through the columns of the papers that by their efforts they prevented an epidemic. During an epidemic they will say, "We are doing all we can to stop its spread," but, of course, it will not let up until the atmospheric conditions change.

The violation of the physiological laws of the body and the effect of the atmospheric conditions upon the body is the cause of all epidemic diseases; and instead of being the most dreadful class of diseases they are the least harmful, and the easiest to prevent. There can be no doubt that the public would quickly adopt the simple principles explained in these chapters if the medical profession, to whom the public generally look to for information along these lines, had manhood enough to own up their medical blunders, and give the public this simple knowledge. The prevention of small-pox can only be

accomplished by each individual correctly applying the Big Four—Eating, Sleeping, Working and Breathing—at all times, but especially during unfavorable atmospheric conditions.

CHAPTER XVII.

SCARLET FEVER AND MEASLES.

Scarlet fever is a disease dreaded, especially by the well-to-do class. Many of the poorer class will say, "Ach, dat sharlach feber, dat was notting; we don't need a doctor." Some people are even more afraid of scarlet fever than they are of small-pox. Forty and fifty years ago people would run away from measles as from a prairie fire. In fact, measles in those days was dreaded more than any other disease. I have known two and three patients to die in one family in twenty-four hours from measles. At the present time it is rarely that a physician is called to a case of measles.

Why is it? I will ask, that measles was one of the most fatal diseases forty and fifty years ago, and at the present time a death rarely occurs. This generation has forgotten the dreadful scenes of those days, and it is the rapidity with which the public forget medical blunders that makes it possible for the medical profession to hold the public confidence. As before stated, half a century ago it was almost sure death when a physician was called to treat measles or scarlet fever. This was so true that people began to say, "What is the use of calling a physician, the children will die anyhow, and we better save the physician's fee to bury them with." This very fact makes it possible for the writer to be alive to narrate these experiences.

The mothers and grandmothers began to apply their hot teas and hot bottles, and, as they expressed it, "done the best they could for the children;" as a rule wherever grandma's treatment was used the children recovered. Whenever a doctor was called in there was sure to be a death in from ten to twenty-four hours. I well remember how these regular doctors would denounce, and in many instances defame, these poor mothers who would save their children by not calling in the "medical wonders" to kill their darlings. In short, the suffering and high death rate that existed at that time among scarlet fever and measle patients was not due to the *disease*, but to the doctor's method of treatment. The old grannies, whom the profession had always denounced, finally forced them to change their murderous methods of treatment. This is the reason why measles is not considered a very serious disease at present. But the treatment of scarlet fever, even at the present time, is often horrible to contemplate.

Scarlet fever is considered a disease of childhood. There must be a reason why an adult so rarely comes down with the disease. There is a reason. Scarlet fever is nothing more nor less than the excessive production or excessive accumulation of urea and uric acid, of which the child produces about double the quantity that the adult does (in proportion.) As the child must eat for both growth and nourishment then there must also be a proportionate excess in the waste product.

It seems almost impossible that any practitioner can practice medicine any length of time and not observe this fact. How any individual with any faculty of observation and reasoning, and some knowledge of medicine and physiology, can treat scarlet fever cases year after year and not have better success in handling this disease than is done by the ordinary practitioner at the present time, is beyond my conception.

If any one will take the scales which are considered such a terrible contagious product in scarlet fever, and also take the scales from a healthy person who has not bathed for some time, and has allowed the excreted waste product to accumulate upon his body, you will find, by examination, they are chemically the same. This is all there is to the subject. One is considered not contagious. Why, then, is the other contagious? Yet the medical profession claims to have investigators. We ought to have a mental antiseptic to clear our moral vision.

It will take strong evidence to prove to me that the average physician is so ignorant and stupid that he can not observe these little facts, no matter how limited his general knowledge. Then, why is it that this persecution of the public is continued by frightening them into the false theory of the contagiousness of scarlet

fever, and by enforcing the quarantine laws? The patients are hauled to the pest houses, snatched from the arms of their mothers under whose care they ought to be. Father, son and daughters are prevented from going to their work and earning their daily wages, which is usually so badly needed to support the family. I can in no better way explain the unscientific and sometimes criminal methods now in vogue in treating scarlet fever, than to give a few typical instances in my own experience.

Being called in consultation, where three patients had been treated for three weeks for what the attending physician called catarrhal fever, I found two boys convalescing and a girl in a dying condition. She was about ten or twelve years of age. She was unconscious, with a temperature of 106½°, and apparently could not live many hours in that condition. The skin was so dry that there was no chance for the body to rid itself of its poisons, and thus lower the temperature, but I knew that if the channels of elimination could be opened before it was too late, all would be well. The treatment I suggested the parents thought was very harsh. I assured them, however, it would be soothing to the girl, and they finally submitted. I wish to add that I had never used this form of treatment before in this disease, but the condition of the child and the fact that something must be accomplished at once, which I knew drugs would not do, suggested the treatment. I had the child stripped of all her clothing and wrapped in a cold wet sheet, surrounded with woolen blankets. This was to be repeated every hour. The effect was almost magical. In six hours the child was conscious, and in ten hours as thickly covered with the eruption of scarlet fever as she could possibly be, with the temperature nearly normal. Why? Then I examined the two boys, who, as I stated, were convalescing, and found them scaling off, showing that they also had had scarlet fever. The girl made a good recovery in one week.

It almost seems impossible that such ignorance and carelessness could exist among physicians. My experience has been that equal and worse blunders are quite general, and those making the greatest blunders often have the biggest reputations. It is the old story. The success of a physician depends, not so much upon what he does for his patient, but more upon how careful he is in treating the well ones in the house, and the neighbors who happen to be about. If he has the tact to please them, even though he does not know how to treat the case, and the patient dies, he will be lauded for his great pains, but it was the "Lord's Will," and beyond human powers to save the patient. I have known the same physician who treated the foregoing cases to make from one to three visits a day to one case of scarlet fever, while I attended twelve cases, and all recovered. But the doctor was still making his daily visits to the one case. He made one hundred and ten visits to the one case. I made forty-two visits to the twelve cases. In calling his attention to the fact, he said: "You don't know your business," and from the money standpoint I have often thought he was right. I wish to state right here, that the methods of bad treatment and lingering a case along is the usual cause of the terrible sequelæ. I have never lost a case of scarlet fever, and say again it ought rarely to occur. But how different are the facts. Only of late some *great* professor gave a report of three hundred cases, praising himself for losing only twenty-five and one-tenth per cent.

To show how hard it is to change the opinions and sentiments existing at the present time, I will relate an experience in a family who had all of this world's goods that could be desired, and were always very anxious to enjoy both wealth and good health. Great care was ever taken to avoid sickness, but all to no avail. Some one in the family was always ailing with one trouble or another. One would have a cold; another a sore throat. Still another would have rheumatism; another indigestion, and so on. The daughters were all pale and delicate, although naturally endowed with good constitutions. The sons were somewhat stronger, being out doors more, but as far as being able to enjoy their wealth, it was out of the question. Finally the children came down with diphtheria; one young and beautiful lady of twenty-two years, and a lad of six years old died as a result. The shock of the family can only be imagined

by those who have had similar experience. The doctor who attended them, the old family physician, was blamed for bringing the disease in some way to the house, as no other cause could be assigned for the misfortune.

The following year scarlet fever broke out in the same family, and I was called in to attend them. It did not take me long to learn why this family, especially the female portion, were delicate, although by nature they had good constitutions. Also, why there was so much sickness in the family, and why they had diphtheria the year before, and why they had scarlet fever now. The very methods they employed to keep well were the very causes of all their sickness, deaths and sorrow.

They were always careful to keep their rooms very warm. Every door and window fitted tightly, so that very little fresh air could get into the house. The windows were kept closed so that there would be no danger of taking cold. The daughters (the belles of the town), stayed in the house much of the time. Now and then they would go out into society with their slippers and low-necked dresses, which was really not so bad as the stagnant air they were continually breathing in at their own home.

When I told the father to open the windows in the room where the patient with scarlet fever lay in order to get fresh circulating air, it appeared at first as though I would not have the opportunity to make the second visit. He said: "Why, doctor, that boy will surely catch cold if I open the window with such high fever." The father was mayor of the city, and in many respects an intelligent man, but it took several hours to convince him that there was practically no danger of taking cold when a patient had a high fever, and that the greatest danger of taking cold was after the fever had subsided. I explained to him what scarlet fever was, and that this was as bad a case of scarlet fever as is usually found; the throat being as completely covered with a membrane as it would be in a severe case of diphtheria. I assured him by following my instructions the boy would make a rapid recovery. The father broke down and cried like a child, and said he knew the boy would surely die, as the other children had the year before. I assured him that the boy ought to get well, and if he died it would be our fault, and not the fault of the disease, and he finally yielded to my earnest persuasions. In one week the boy was out of bed, and in ten days well enough to be out doors. During this time I had an opportunity to explain to the father the causes of all his misfortunes; that they were all induced by themselves, and that their fine mansion, from nature's standpoint, was the dirtiest house in the county. I explained to him the principles advocated in this series of articles, and for seven years this family has had no need of a physician, and have all enjoyed good health. This kind of practice is splendid for the public, but it is mighty hard on the doctor's pocketbook. When will the physicians educate the public, and insist that these simple principles of nature be carried out?

In another family with two children, one seven years and the other two years old, the eldest came down with scarlet fever. The family physician was called, who, I must admit, honestly believed in the contagion theory, and by the way, was the preceptor of J. B. Murphy, M. D., of Chicago. The father of the child was a professional man; the mother a well-educated woman, and at one time a school teacher. Both were ardent believers that scarlet fever was contagious. Of course, the first thing the doctor said, and naturally the first thing the family expected he would say, was that the house must be quarantined, and all remain at home. The father pleaded that it must be arranged some way so he could attend to his business—that he had an urgent matter on hand, and it must not be neglected. "But, my dear sir," said the doctor, "you must stay at home, because you will spread the disease to others if I let you go." The doctor finally permitted him to attend to his affairs, provided he would sleep down stairs, and not go up into the room where the sick boy lay. To this the father cheerfully agreed.

But what about the mother and the other child? She nursed the sick boy, and was at his bedside most of the time, thereby exposing her husband to the disease, and he, in turn, exposing others. Besides this she had to feed, handle, and care for

the younger child just the same as if no disease existed in the house. There was no danger of her giving the disease to her little child when she was practically going from one to the other during the whole day, but the father could spread it all over the city if he even went in to see his boy. The doctor could go into the room two or three times a day, from there go to visit other patients, go to his office, to church; in fact, go anywhere he pleased without any danger of spreading the disease. Is this not medical science in a nutshell? If disease were contagious, how could it ever be stopped from spreading? Does any one know of a superstition or belief of the dark ages that was based upon less common sense, less logic or reason and more ignorance of natural law?

I happened to have occasion to call at the house of this family sometime afterward. The mother, during our conversation, explained to me the care and interest the doctor took in keeping the disease from spreading to others. I then called her attention to the doctor's as well as her own logic, and asked her why, if scarlet fever was so very contagious, she did not give it to her other child, and why the doctor and husband did not spread it to others? She cut me off short by saying: "Well, the doctor ought to know, and that she had confidence in what he said."

Now, is this not the state of the public mind? Can it not be demonstrated thousands of times in every epidemic? Are there words in the English language strong enough to condemn such a sentiment, such lack of reasoning? Although, let it be understood that the public are not so much to blame. It is taught to them by the medical profession and the impression they receive from medical literature.

328-330 Harmon Street.

(To be Continued.)

A Miraculous Cure.

Berlin newspapers recently contained the following advertisement:

To all suffering from paralytic manifestations I recommend my new cure by suggestion, which has restored the use of their limbs to hundreds of person. G. Trippke, Naturopath and Hypnotiser.

In response to this promising advertisement there appeared in the office of this miracle worker a strapping young fellow, tall and of Herculean proportions. A few days ago he had been an active participant in a regular fight with the result that he was now unable to move his right arm. The quack at once assured him that by his famous method of suggestion he had cured much more difficult cases than the present, and, indeed, the effect of his treatment was striking, and ended in a police court.

The patient, a beer van driver by the name of Karl Mankel, was hauled before the magistrate on the indictment of threats and assault. Trippke, the naturopath, stated that Mankel had threatened to fell him to the floor, and had actually dealt him a violent blow in the face, which had caused a disfiguring bump lasting about a week.

The accused now told his version of the event, explaining to the judge how he had been inveigled by the advertisement to consult Trippke, and describing the treatment he had received in the following words:

"So you say you cannot move your right arm," said Trippke. "I will fix that for you, only you must have confidence in me. Take a seat in this chair, keep perfectly quiet and look steadily into my eyes. Of course, I was awfully curious as to what was going to happen next; kept as quiet as possible, and looked the quack squarely in the face. After shooting all kinds of glances at me and a good deal of gesticulations, he thought I was in the desired condition, and the suggestion commenced. Have you ever been a soldier," asked Trippke. "I have," was the answer. Upon which he roared, in a thundering voice: "Lift your right leg! Good! Lift your left leg! Fine! Lift your right arm! What are you doing? I told you to lift your right arm, and now you lift your right leg! Well, you know that I cannot lift my right arm. Once more he thundered: Lift your right arm. Cannot do it. Now, he roared into my ears about fifteen times: Lift your right arm; lift your right arm. But do what I might, I could not lift it. Well, then, I cannot do anything for you just at present," he remarked at last, "but I hope that the good effect will follow later on. Twenty marks, please (five dollars)." "What," said I. "You impudent fellow.

Twenty marks? You miserable old quack, I have a good mind of knocking your head off. And heaven only knows how it happened, but at that moment I was really able to use my right arm again, and I soundly boxed his ears with it."

Although the miracle worker assured the court that the accused had fully intended to kill him, the culprit was only found guilty of a simple assault, and mulcted in a fine of twenty marks.

[Written for the MEDICAL BRIEF.]

Experience in Practical Optometry and Some of Its Results.

BY WILMOT P. BRUSH, OPH. D.,
Fredonia, Pa.

As time goes on my personal experiences in the practice of optometry or that of finding the refractive condition of the ametropic eye and supplying the needful lenses, properly adjusted, as indicated, for the relief of eyestrain or the betterment of defective vision, calls to mind whether or not, one of the paragraphs found among the numerous trite sayings of "Old Doc," in "Reminiscent Chats," has been correctly interpreted by me, or is not specifically correct in some cases. The words referred to are found in the issue of MEDICAL BRIEF, April, 1905, page 283, and are as follows: "When the people are all the time complaining of headache, you may be sure it is caused by dyspepsia, constipation or liver disease."

Permit me, at the outset, to state that I do not offer the following experiences as a basis for controversy, nor as a personal criticism based on the language of the above quotation, because I do not yet positively know just what causes many of the abnormal conditions denominated disease, nor whether the condition is in itself primary or the result of perverted function antecedent thereto. My limited knowledge of neurology, gleaned from lectures and the various text books, is circumscribed so that with all the acuity of mind accorded me by the several senses, I am, to a great extent, limited to personal experience, and subject to variance when a comparison is made with my fellow worker on identical lines. We can, I believe, generally agree that the human organism is, as it were, a machine that is kept in motion by a medium commonly called nerve force. That the brain is the center for such force, and that it is utilized mainly through the sensory and moter nerves, subject, however, to needed variations through the complexities of numerous ganglia. That fatigue is the result of wornout cells and the diminution of nerve force, hence rest is necessary that a normal amount of energy for distribution may again be acquired in both repairing the loss of wornout cells and preparatory to a renewal of further action demanded by the economy of the human organization. If it be true that the source that supplies the twenty muscles of the two eyes embraces about one-third of the gray matter of the brain, and of the seven or more senses that one called vision is the most in continued use, it would seem that it should have more than just an everyday or common-place consideration. I have not had a life-long experience in correcting abnormal eyesight and its collateral troubles through the use of lenses, nor can I positively confirm the claim announced by the association of Philadelphia ophthalmologists, that ninety per cent of all headaches are due to eye-strain. Yet, in looking back over several hundred cases, as found in my record books of findings and fittings with subsequent results, it tends to demonstrate that many cases of headache, stomach, intestinal, and uterine troubles gradually disappear after properly focused and adjusted lenses have been worn. Experience teaches me, too, after making comparisons of my own fittings with those of others, that no one can be absolutely sure of the future or final results in all cases, however long experienced or highly learned in ophthalmology or the more advanced optometry. It would seem that in some instances it may be the result of suggestion, for the reason that lenses put on by rudimentary opticians, who know nothing, comparatively speaking, about the economy of vision or of reflex troubles, but play the empiric absolutely in supplying the glasses, relying on the co-operation and the acquiescence of the usually uninformed patient.

Of the many successful cases found in my record book I take up three by way of

illustration. One, a lady, aged 60, came bringing six pairs of spectacles, none of which could she wear comfortably. She stated that she had stomach trouble or dyspepsia very bad. On examination I found that O. U. for near vision required about plus 3.00 D. spherical. I measured all six pairs of her lenses, and found that three pairs were plus 3.00 D. spherical. The geometrical centers of lenses, as set in the several frames, run fifty-six, fifty-eight, two pairs sixty, and two pairs were sixty-four millimeters, whilst her interpupiliar distance at twenty-four inches measured about sixty m.m. The temples of the six pairs were straight ones, and set at right angles to the eye-wires. On a closer inspection of her face I found that the right eye was about four millimeters higher than was the left. When one of the pairs was on her face, and the eyes directed to an object at about the usual working distance, if the left eye or its visual axis was about central latterly to the lens, then the right eye was about half way between the optical center of the lens, and its upper peripheral border. This position of the lens before the R. E. would be equivalent to a prism base down, which would displace the image of the object seen by the R. E. downwards on the retina. This displacement of the image on the R. E. would tend to produce diplopia, or the seeing of two images of the one object, when the brain would be compelled to use an extra amount of nerve force to bring the two images on corresponding parts of the two retinas or reject the poorer image. If the brain choose the former, then it would have to rotate the front of the R. E. upwards in order to move the back or retina downwards, and bring a corresponding part of the retina in harmony with that of the retina of the L. E. If the other course was pursued, then one eye would have to be rotated upwards and the other downwards, or the image of the poorer eye disregarded and neglected. The patient was right-handed, and as is usually the case, the R. E. was the dominant one, and if the lens were set properly before the R. E. then that of the left would not be properly set so as to have perfect binocular vision, and in time would become, to a degree, partly amblyopic from disuse. We doubtless all can understand that an extra effort or use of nerve force used in trying to adjust the focus of the image on the retina of the R. E. that it would tend to disturb the accommodation and the convergence, even at sixty years of age. Then, again, it will be noted that but one of the six frames gave about the correct inter-pupiliary distance, viz., fifty-eight m.m., at her usual working distance, but both eye-wires set on plane and with old-fashioned "curl," or "C" bridges that seldom fit any nose satisfactorily or properly set the lenses as they should be in order to secure distinct vision. I took a long-shanked saddle-nosed frame, set the right eye-wire up about four millimeters, set the optical centers of the lenses at about fifty-eight m.m., angled the end pieces, letting the lenses out at the top about twenty degrees so that the visual axis of the two eyes, when directed to an object at about fourteen inches, would pass through the centers of the lenses at about right angles. After placing them on her face I told her that some friend may say: Your glasses are not on straight. You must say you know it, as they were made that way on purpose. Requested that she wear them, if comfortable, a month, and then write me. She did so, and stated that the glasses were perfectly comfortable, and the stomach trouble all gone. Of course, the right lens could have been decentered before cut and finished, and the eye-wires kept on plane, but seeing that one was set higher than was the other doubtless had some influence on the mind of the patient. Now what was it? The correct adjustment of the lenses or something bordering on suggestion. Another case, a girl, eleven years of age, whose mother called, and described her daughter as pale, thin, nervous, occasionally had vomiting spells and could not attend school regularly. Had taken a good deal of medicine, and had tried to wear three different pairs of glasses. I requested that she bring her daughter in. She did so, and the description previously given was confirmed. One of the three pairs of glasses above referred to was O. U. plus 3.00 D. spherical. Another O. U. were minus .50 D. spherical, and the third pair O. U. were plus 1.00 D. cylinders axis 90. The first fitted by a jeweler, the sec-

ond by an itinerant peddler, and the third by an oculist. After three sittings I found compound hyperopic astigmatism, and corrected it with O. U. plus 1.50 spherical, with plus 2.50 cylinders, axis O. D. 105, and O. S. axis .75.

She was directed to wear the glasses, if comfortable, constantly during waking hours, and report in four weeks. She did so, and returned with the mother. The changed appearance in the girl was indeed a surprise. Improved facial expression and color, a gain in weight, stomach trouble gone, easy distinct vision, eyes did not tire at near work or books, ate and slept well, and, as her mother expressed it, acted like her other children. What brought about the result? The correction, suggestion, or just got well anyhow? It may be thought that the patient was nearing the psychic changes that take place at the onset of puberty, but this did not occur until more than one year afterwards.

One more case, Mrs S, aged thirty-eight years, mother of four children, complained of dizzy spells, and more or less stomach trouble since a schoolgirl. Had tried numerous remedies for dyspepsia and liver troubles. On examination found the head and face more regular and symmetrical than are the average. Eyelids somewhat thickened, considerable hyperemia, had pain both frontal and occipital, spells of sleeplessness, as she termed it, and frequently a tired morning feeling. Vision O. D. 20/40 and O. S. 20/60. After three sittings, trial case full equipped, retinoscope, phoro-optometer, etc., found compound myopic astigmatism, and corrected O. D. with minus 1.00 D. spherical combined with a plus .75 cylinder axis 105, and O. S. with minus 1.50 spherical combined with a plus of .75 cylinder axis 90. This gave fairly distinct vision either eye of 20/20 and O. U. about normal. She was right-handed, with the O. D. the dominant eye, and tilted her head a little to the left, which doubtless explains the unsymmetrical position of the axes of the two eyes, the one at 105 and the other at 90. Had frame made, lenses set at an angle of about eight degrees, and properly adjusted. Requested, if comfortable, to wear continuously during waking hours, and to report in a month. She did as directed and returned. Eyes had cleared up, hyperemia practically all gone, no more headache or stomach trouble.

Two months then went by, and she called again, and expressed herself as follows: "It's strange that I should have suffered for more than twenty years, and no one seemed to know that my trouble was caused by my eyes. It hardly seems possible now, but I feel perfectly normal. I think it would be called eat and sleep and rise in the morning feeling refreshed, just as if sleep had given me a natural rest."

The foregoing are among the successes. What about the failures? In about eighty per cent of all examined, nearly all where directions were followed may be classed as successful.

Of the twenty per cent, far too many come after the structure of the eye has broken down, through abuse, over use and neglect, the primary condition being congenital. Many cases, doubtless, made worse by the use of misfit lenses and poorly adjusted frames, or both combined.

The hyperope of two or more diopters and with troublesome vision refuses to constantly wear his distant correction contributes to an early breakdown, and lays the foundation for that long train of diseased conditions that the learned oculist is called on to remedy, among which is trachoma, of which Dr. Hughes, in the June issue of the BRIEF, page 388, says: "The refraction is a matter often overlooked in trachoma cases. Attend to the refraction of your chronic trachoma cases, and your treatment for the disease will be successful; neglect the refraction, and you may go on forever painting, and swabbing, and pressing, and massaging, etc., without any success whatever."

I believe that more than one-half of all cases of ametropia that causes increasing discomforts as the years go by, can be relieved within the first six years of childhood, during the early formative period, and more than one-half of the resultant diseases of the eye in later life aborted, thereby affording the unnumbered unfortunate individuals a greater degree of happiness through the use of correcting lenses before the habits of mind and body have reached complete maturity.

[Written for the MEDICAL BRIEF.]

Pneumonia.

BY JOSEPH D. HARRIGAN, M. D.,
New York City.

(Continued from page 566.)

If we are not to take cognizance of the weather—by which is understood physical and chemical forces—as a prime factor in causing disease, *i. e.*, in causing physical and chemical changes in us, we might just as well neglect to take the simplest precautions to protect ourselves from its inclemencies.

It is preposterous to imagine for a particle of a second that there are no diseases due to the weather purely, simply and exclusively.

It is against all human reasoning to permit "germs" to monopolize our etiology.

This monopolization is opposed to all the teachings of physics and chemistry.

The human body is not exempt from the operation of these forces, and the sooner more time is devoted to the study of these physical and chemical agencies of disease and a relegation of "germs" to the background, the sooner will greater advances be made in medical science.

Apart from the typical examples of pneumonia mentioned, in the August issue, there are various pneumonias due to the inhalation of irritants in the atmosphere, these not necessarily meaning always what are spoken of as foreign substances, such as the dust of grain, coal, etc., but more particularly embracing those gases whose presence in the atmosphere is not always constant, but which, when present, are capable of producing disturbances of the system everywhere, but localizing the effects in certain cases, in places of least resistance, these being very frequently the lungs.

As Professor Flint, in his "Practice of Medicine," speaking of broncho-pneumonia, says: "It may be produced in persons of any age, traumatically, by the inhalation of chlorine, or other gases, of vapors, and of irritating substances of various kinds."

Many of these irritants are so severe in the effects produced as not to penetrate beyond the larynx, but excite such a spasmodic action in the throat that violent coughing ensues, and immediate efforts are made to escape further inhalation of them.

It is easy to understand how a violent inflammation can result from contact by the air-cells with these irritants.

A tolerance may sometimes be established provided the gases are not too irritating, just as we see the erythema caused by the sun's rays tolerated by even the most delicate skins.

Let the epidermis usually protected by the clothing be suddenly exposed for a time to the fierce impingement of the sun's rays and a violent inflammation results that takes many days to completely control. The molecules making up the epidermal tissue are not easily mollified after their ruthless and sudden disturbance.

But let the exposure be extremely gradual, and we have a tolerance set up, a tempering as it were, and a tanned condition is the result.

The molecular re-arrangement is so insidious that no deleterious effects occur to the molecules.

No transudation of liquid, no breaking down of the molecular structure with resulting formation of pus as occurs when the disturbance of molecular harmony is sudden and violent.

The tolerance established in certain people employed in establishments where irritant gases are contaminating the atmosphere is merely comparative.

The same might be said of those whose occupations necessitate sudden changes from the temperature of superheated rooms to the freezing atmosphere of the streets, etc.

People obliged to undergo these sudden transitions have a certain tolerance established which, however, is far from being absolute.

Coming back to typical cases of pneumonia, the initial symptom is very frequently a chill, or at least chilly sensations. This chill is the expression of the shock to the nervous system caused by the too sudden interference with the existing molecular harmony. There is a disordered condition in the animal electric circuit formed.

Like the disorders, caused sometimes by very slight accidents, in our great elec-

tric power, light, telegraph and telephone systems, there is almost no telling where the most serious results of the initial interference with the electric circulation may eventuate.

This chill is, however, not an essential to the production of a pneumonia. The stasis of blood in the lungs, which is so frequently the result of a chill is frequently brought about by many other causes, notably by the ones mentioned in speaking of hypostatic pneumonia.

Anything interfering with the proper circulation of the animal electricity, particularly at the surface of the body, is liable to cause stasis or congestions in various internal parts, and particularly in those delicately constituted tissues of which the lungs are constructed.

The same result can be brought about by condition of the blood permitting transudations.

The absorption by the lungs of certain gases from the atmosphere, which would have the effect of bringing about such transudations, even without local irritation, must also be considered.

Just as we speak of the vitalizing effects of oxygen or ozone upon the animal economy, we can well consider per contra, the devitalizing effects of other gaseous constituents temporarily present in our atmosphere, even at times causing widespread epidemics of disease.

Even without the presence of extraneous gases in the atmosphere an inhalance of the normal constituents is sufficient to produce internal congestions, and particularly of the lungs.

Stepping from the comparatively pure atmosphere of the street into that of a crowded assembly hall, heavily laden with the exhalations of a thousand human lungs is sufficient to cause such conditions of the blood to be set up as to produce severe disturbances of the system, as evidenced by headaches, nausea, etc., merely due to the lack of proper oxygenation suddenly brought about.

Vice versa, coming suddenly from the heated air of the same assembly room to the cool atmosphere of the street brings about a too sudden oxygenation that congests the lung in a manner similar to the sudden change from the compressed air of a caisson to the atmosphere of the surface.

The latter brings about an attack of the disease known as "the bends."

If several are affected, as sometimes happens, simultaneously, it certainly is not to be inferred that the disease is caused by "germs," or that it is "infectious."

Neither does it follow that because a number of people are taken down with pneumonia after attendance at a crowded entertainment that "germs" had anything to do with the attack.

It is certainly true that within the past few years attacks of pneumonia have been the cause so often of prostrating several members of a family almost simultaneously, that it would seem only reasonable to expect that "germs" were the etiological factor in the matter.

But the fact that we are living almost constantly in an atmosphere of influenza seems to have been lost sight of.

From time to time this influenza condition of the atmosphere is intensified with the result that whole families are affected by it.

It is not surprising that, inasmuch as influenza is a constitutional affection, localizing itself at points of least resistance, several members of a family may be stricken with an influenzic pneumonia just as readily as influenzic coryza, an influenzic bronchitis, etc.

Or a localization can occur in several parts of the body at once, as is usually the case, giving rise to various symptoms pertaining to the disturbances of functions in the parts affected, so that we can have influenzic meningitis, pericarditis, endocarditis, nephritis, hepatitis, gastritis, enteritis, etc., as likewise no end of combinations.

As influenza is an exclusively chemical disease all of its protean manifestations must likewise be regarded as due exclusively to chemical agencies.

The whole history of influenza proves its atmospheric, chemical origin; its appearances simultaneously in different parts of the world widely separated; its attacks on crews of ships in mid-ocean simultaneously with its appearance on shore; it is lightning-like spread, etc., all of these facts stamp it as an atmospheric

disease, exclusively chemical, notwithstanding various "discoveries" from time to time of its so-called "germ."

Influenzic pneumonia is no different from any other pneumonia, except, perhaps, in the degree of intensity, or degree of activity. The same holds good of hypostatic, embolic, traumatic, deglutition-pneumonia, etc.

Inflammation of the air cells is inflammation, no matter how produced, and no matter under what name it poses.

A difference in localization of the inflammatory process undoubtedly produces differences in the products formed, these becoming fibrinous, bucous, serous, hemorrhagic. purulent, etc., as the case might be.

The whole process is identically the same, the various differences arising from the differences in materials involved. The main points of interest in connection with the different varieties of pneumonias consist principally in their differences in etiology.

We must look to physical and chemical agencies as causative of pneumonic inflammations, or, eliminating these, take it for granted that the human body is immune from such forces; that they simply deal with inanimate matter, and that animate entities are absolutely free from their influences.

To mention such a possibility is ample enough refutation of its absurdity.

(To be continued.)

[Written for the MEDICAL BRIEF.]

Vitality.

BY C. D. R. KIRK, M. D.,
Shuqualak, Miss.

The Editor of the BRIEF has requested the readers to "let us all give our views" on vitality.

Vitality, vital tenacity, or life force, originates and is supported by the power of the cerebellum or animal brain, and just in proportion to the thickness of that division of the brain is man's vitality, life force, or vital tenacity, the power to resist the fatal termination of diseases, and his power to combat with nerve and muscular worry.

All observing physicians have been horrified to learn that a well formed, and, to every appearance, strong patient, has succumbed to quite a trivial disease, perhaps a mild intermittent fever, but have been, on the other hand, very much gratified to have a poor, lean, "ready-to-die" fellow pull through a very malignant attack of disease, in spite of doctors and other causes that sometimes bury their mistakes. There are whole families who live to a good old age, and perhaps many years longer than their neighbors, while there are others who will all die before they reach the meridian of life, and, strange to say, all are endowed with about the same muscular formation and power—everything of which the casual observer is aware is equal. Writers of past centuries have observed that there was some peculiarity which originated in the cerebellum, but concluded that it was the individual's power to control his temper and other passions, as some had mild tempers and others were high-tempered, etc.

The cerebellum, a measure of which can be made by passing a line from the occipital protuberance to the lateral inferio angle of the os frontis, or external extremity of the eye-bone, the space that may exist between this line and the meatus auditorius externus, as assumed, indicate the thickness or depth of the base of the brain or the cerebellum.

If this line is only from one-quarter to one-half an inch, the individual has only a very weak vitality or life force. His power to battle with disease is very weak, and he will very surely succumb to the first attack of disease. These individuals, it is claimed, can not strive against misfortune and trouble with any better power than they ordinarily resist the fatal issue of disease, but soon begin to contemplate self-destruction. They being the people who commit suicide, are they responsible for what they can not resist? Is it not, with such an unfortunate individual, a natural death?

If this line measures from three-fourths to an inch and a half, the possessor of such a deep cerebellum has a guarantee of a long run on terra firma. His recovery from diseases and wounds is phenomenal. The writer had a case who had measles at first, then typhoid fever, which was fol-

lowed by acute bronchitis, all in quick succession. When the fever ceased, after the last ailment, he was unable to move his hands, feet, or his body. The only life remaining was in his eyes, and a very weak circulation. A good lady who lived about two miles from the patient proposed to nurse him, and see that he had the proper diet, if his friends would transport him to her house. The generous offer was accepted, and without consulting the writer they met at the patient's house one very cold morning, and after all hands, including the patient, had drank freely of a jug of whisky, they placed him upon an improvised litter, and carried him by hand, and that, too, with light covering. He was quite blue in his face, but showed a pleasant trip by a friendly expression of his eyes. He gained his health rapidly, and was soon ready to plan some means by which he could beat the doctor and his neighbors of all of his expenses. He measured near an inch and a half.

For a further consideration of this subject, the reader is kindly referred to "Powell's Human Temperaments," the only practical consideration of the temperaments.

[Written for the MEDICAL BRIEF.]

More About Hematuria.

BY J. P. ATKINSON, M. D.,
Bodcaw, Ark.

I see a great deal written about this disease. Some writers say give calomel, ergot, and sulphuric acid, and quinine; some say, give calomel, turpentine, hypophosphite of sodium, and morphine to quiet restlessness and vomiting; some say give calomel, but no quinine; others say give turpentine, but no morphine. Now, I see they all use calomel; none object to it; all agree that it is one of the things to give. I do not see any one objecting to the use of ergot to control the hemorrhage. I see many objecting to the use of quinine on the grounds that it irritates the urinary organs, and may increase the hemorrhage. I have never seen, nor read of, nor heard of, a case of hemorrhagic malarial fever (or malarial hematuria) dying from the hemorrhage of the kidneys, nor is there a case on record where quinine has caused death by its irritating action on the urinary organs.

Garen gives a case where ergot was given for polyuria, and the patient ceased to urinate, and died.—*Medical Nurse*, xliii.

Then, with mercury, Bouchard has recorded one case of mercurialism five days after salivation had commenced, suppression of urine occurred, and on the ninth day the patient died. We all know that during pronounced mercurialism, albuminuria may occur with or without hematuria. No such condition as this has been reported from the use of quinine. Now, why do we condemn it on the grounds that we do, and give the hypophosphite of sodium in its stead, and at the same time we do not know how it acts? We never advise this salt of sodium for any other malarial trouble, yet we will praise it to the skies for malarial hematuria, and at the same time condemn the great malarial antidote, quinine, on the grounds that we have no therapeutic proof that such grounds ever exist.

It is true that quinine under certain conditions is an irritant to the bladder, but I see no account of death ever being caused by this action of quinine. Why do we call this a malarial disease, and then condemn the treatment for it that is used for all other malarial diseases? Do we not either have a wrong etiology or treatment for this disease? Hyposulphite of sodium is no more than an agent to destroy putrefaction, and a deodorizer. It might be given for fermentation of the stomach and bowels. In what way it acts for good in malarial hematuria no one can tell. Is it given to just save the sick from heroic perturbative treatment, and allow the disease to run its normal course?

Hare, in his therapeutics, says in reference to sodium hypophosphite in malarial hematuria: "How it acts in this condition we do not know." Now, it seems to me that it is possible that the writers who have reported bad results on the kidneys, from the use of quinine, may have been deceived, and that it might have been the disease, the calomel, ergot, or something beside the quinine that caused the trouble.

Enclosed find one dollar for the MEDICAL BRIEF. I can not do well without it.—E. ERICKSON, M. D., McKittrick, Cal.

[Written for the MEDICAL BRIEF.]

Adam and Eve.

BY FRANK R. BRUNNER, M. D.,
Eshbach, Pa.

Is the story of Adam and Eve true, as related in the Bible? asks one of your contributors.

Another asks: "Did Adam have a navel?" To both questions we answer: Certainly he had, and Eve also, and the story is true.

Some expressions in the Bible must be understood figuratively, some physically and others spiritually.

Not long ago I listened to a funeral sermon. When it was over I said to the preacher: Your sermon was good, but there is one thing you ministers say which is not true. "What is it?" asked he.

You say that if Adam and Eve had not sinned people would not die, but on account of that sin death entered and passed upon all men because all have sinned, and yet it is an established fact that all creatures taken from earth must again return to earth.

"Oh, no," said the parson; "man would not have died had Adam not sinned. I must preach a sermon on that topic some time," and we separated.

Where is the assurance that if Adam and Eve would not have violated the commandment that none of their descendants after them would have done so, or are we to understand that if Adam and Eve had obeyed, that that obedience would have ended the committing of all sins in the future, because the command was given only unto Adam, and not unto his followers?

We ask: Who made Adam? Answer: God. Of what? Dust of the earth. Who made you, and all of us? God. Of what? Dust of the earth. The same then as now.

Genesis gives an account of the creation, and not all men place the same construction, or draw the same inference from the many statements.

Adam and Eve were born physically, the same as you and I were born, and they certainly had each a navel. Suppose they would not have had, what would that have had to do with our present make-up? Not more than to know whether the hen was first or the egg was first. Adam had animal life and an umbilical cord when he was born, the same as children now have. Who his mother was is immaterial, but his subsequent life and failings have much to do with our lives today.

Adam and Eve were born with more and better intellect than were those of any of their predecessors. That superior intellect we call soul, the same as the Lord named it. What do we understand by the word soul? A created intellect, consisting of wisdom, reason and understanding.

After these advanced people were prepared they were given a command, and became subjects of law and obedience, and the violation of that law was the cause of their punishment.

This narrative has reference to the spiritual man, and not to the physical, and the story could not be truer.

Unto these parents were born children. There were disagreements or hatred between two boys, and Cain slew Abel, no doubt due to jealousy, and Cain had to flee into another country, because he had violated a law. We might infer that he was more or less justifiable in committing this act, since "the Lord placed a mark upon him to save him from the hand of violence."

In that country Cain married a woman who was fair, from among the daughters of men.

In Genesis we are told that the sons of God looked upon the daughters of men because they were fair, and took them for wives.

Previous to Adam and Eve there was no law given unto man, hence there could have been no violation, but from Adam's time down there are laws. Yes, so many that there is no end to law-making.

Adam and Eve could well boast of their wisdom, reason and intelligence, but they were descendants of the children of men, hence their natural weakness, the same as ours today, did not develop in the line of improvement in which the Lord had intended that it should, and a flood came; the law-giver, Moses, came; the Prophets came, and last but not least, Christ was sent to show us the way, and implant into our minds a better spirit, but even

this was not accepted, and the people again cried: "Crucify Him! Crucify Him."

Tom Paine, Ethan Allen, Robert Ingersoll and many others were men of wisdom, reason and intelligence, but denied the divinity of Christ and the Spirit.

Moses entreated his brethren not to do wrong one to another, but they asked him: "Who made thee a ruler over us?"

From these deductions we infer that Adam and Eve, as spiritual beings, had no navel, but as physical beings, they had a navel and umbilical cord, and were born the same as you and I were born, from among the sons and daughters of men who were fair to look upon. Let us study and not dispute and deny the written history of creation.

[Written for the MEDICAL BRIEF.]

Why Does the Blood Crenate?

BY ROBT. L. WATKINS, M. D.,
New York.

Everyone who has looked at blood under the microscope has noticed the mulberry appearance of the red blood corpuscles after they have stood for a time on a glass slide. This, of course, is due to the drying up or the dying of the corpuscles. This mulberry appearance is generally seen to begin at the edge of the cell, but sometimes it begins in the middle, especially of a microcyte, and more often does this occur when the individual from whom the blood is drawn is not strong, when he lacks nerve energy.

This mulberry appearance or crenating of the blood as it dries generally appears on the edges of the corpuscles first; they then extend to the whole body of the cell, and in doing so the red disc splits up, and there is apparently a coming to life, a waking up of these crenating elements. For, as the process goes on, they give the cell an agitated or rotary movement, and sometimes it moves across the field, in one of those lakes of plasma, and as it does so it would seem very often as if these crenations were about to separate from its mother cell, but, in my experience, this seldom happens *in situ*, even after hours of watching.

These little bubbles, crenations, are all about the same diameter, and have been seen in the form of bacilli (rods), and even filaments (threads) apparently developing from the original round cocci into these different shapes.

To the writer's knowledge, this mulberry appearance has never been explained. It is, however, due to the swelling up of the composing fatty or myaline envelope of the red corpuscle when exposed to the air. In the center of the crenation is a little dark spot which can only be seen by the microscopic eye, and it is believed that this dark nucleus is responsible for this peculiar transformation.

When a man dies, changes take place immediately, a contraction, a splitting up into his original elements. The same takes place in the lower animals, in the plants, and even in the red blood cells, when they are removed from their natural home and source of life, the blood vessel.

There is a similarity in all death; for example, the worm dies, contracts, and wakes up to a new life entirely different —the butterfly.

And so it is believed by the writer that these crenations, this mulberry appearance of the red blood corpuscles, are the envelope, the chrysalis of the nuclei, which are the original germs, the anatomical units of life, the microzymas of Bechamp.

[Written for the MEDICAL BRIEF.]

Health—Its Basis and Deeper Meaning.

BY AXEL EMIL GIBSON, M. D.,
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The mistake of the prescriber of the common health nostrum lies in his failure to appreciate the chain of necessity, which inevitably inter-relates causes with effects. The startling successes sometimes attending his practice are mostly of a surface nature, and refer to changes in the mere peripheral activities of the functional life in the diseased individual. Failing to trace the vital disorder in the successive and inter-causative stages of its departures, the prescriber only succeeds in interrupting at random its course of action. Yet as the tendency of modern life seems to aim at a neutralization of effects rather than the eradication of the correspond-

ing causes, it is quite natural that when the practitioner of any of the numberless schools of healing promises to restore to his suffering fellowmen their waning powers of health, and by one great stroke of some mental or material nostrum cancel the claims held against them by a long chain of outraged physical and moral laws, the announcement should elicit quick response, and a throng of eager applicants. It is the old, never-failing appeal to the selfish instincts of human nature, the promise of personal redemption without the requirement of personal atonement. Yet Nature is not to be mocked. "What man sows he must also reap," and the supreme fact remains that inasmuch as a disease represents the focusing point of moral transgression in thought, word or act, it logically must follow that the complete and relapse-free restoration of the lost health is possible only in and through an effort in thought, word or act equivalent in character and degree to the force expended in the initiatory impulse involved in the transgression. In other words, the individual to regain his lost health must retrace and obliterate, step by step, the mistakes of the past by pursuing a morally and physically different mode of life and conduct in the present.

The wish to obtain something for nothing constitutes the key dominant which gives color and motive to the ambitions of most men. Personal benefit is the determining factor in an overwhelming majority of human action. We strive to be well and strong, not because of thus being able to increase our power of usefulness in the service of our fellowmen, but rather because of the personal enjoyment which the possession of health insures us. Wrapt up in the personal aspect of his distress, the sick man fails to recognize his true position in relation to cause and effects; fails to recognize that his condition is self-made, and in positive relation to the degree and quality of his faithlessness to the fundamental principles of his nature. He demands health on a basis of personal rights, regardless of the factors at work in the genesis of his suffering. He appreciates himself as a victim for an undeserved and unavoidable attack of a capricious and inimical nature-force, rather than to see in his position the effect of his own attack on the benevolent and harmonious laws of universal nature. For the truth of existent clear and pungent, lies in the simple, though mostly not recognized, fact that Nature, when not perverted, always aims at a return to the normal, and that health is the original and only natural condition of evolution.

To be well is of greatest importance to all individuals, but to be right is still greater. And as the sick man is the consequence of the wrong man, it ought to be the duty of the former to ascertain, and conscientiously correct, the condition in and through which the disease has its origin and sustaining basis. For while it undoubtedly is our duty to seek health, if its possession, however, does not result from personal redemption in terms of sacrifices in our modes and habits of life, the effort is not only an attempt to shirk our obligations to the moral principles of life, but will also ultimately prove itself futile.

For to coerce Nature into forms and expressions, not in accordance with her own creative modes and methods, can only yield ephemeral benefits. There is no ultimate help for him whose efforts of self-preservation tend to isolate him from the very source of health and life which sustains his existence. As our thoughts and motives constitute the only conducting media by which we are able to reciprocally relate ourselves to life and its regenerative powers, it follows that we depend on the character and object of our motives for the quality of our growth and general development. Hence, the ultimate worthlessness of therapeutic measures with all their attending paraphernalia of kicking, pushing, stretching, wrenching, tugging, etc., when based on purely selfish and personal motives. For, if the individual, in striving to regain his health, merely aims at increased opportunities for personal advantages and pleasure, his thoughts and motives remain centered on himself, which gradually leads to his vital isolation from the rest of life, and in place of drawing strength from a reciprocal touch with the great reservoir of universal creative force, his vital resources become limited to his own circumscribed, non-generative existence. In

his relation to the driving forces of universal evolution, he resembles a body of water turned into a more or less stagnant pool by being cut off from its tributary sources.

On the other hand, however, if the leading motive in my efforts toward health lies in a desire to increase my power of service and usefulness to my fellowmen, then whatever method employed becomes to that extent noble and justified. My thoughts and motives, having been raised from the personal, egotistical plane of self-gratification to the universal plane of altruism, connect me with every life-throbbing center of the universe, while currents of their vital regenerative energy is poured into my nature. For usefulness and unselfish purpose, instinctive or self-conscious, according to the stage of evolution occupied by the entity, are indispensable conditions for all permanent growth and individual survival value.

Now, as health, essentially and fundamentally, means the harmonic relation between personal life and universal life, *i. e.*, its undisturbed flow from point of cause to point of effect, it follows that disease means a rupture in the natural order and unfoldment of things. And, furthermore, as the equipoise of elemental powers and their harmonious interaction take form in manifestation of health, so disease, on the other hand, is equivalent to a disturbance and subsequent arrest of the play of these forces in the diseased individual.

The arrest of life leads to a vacuum, but as a vacuum is no less unattainable on the plane of mind and morals, and on the plane of anatomy and physics, it follows that its presence on any plane of evolution can be of a mere transitory character. The removal, *i. e.*, the equalization of a vacuum, however, involves the operation of forces equivalent in dynamic intensity, vitally or morally, to the motive power back of its original formation. Thus, while physical nostrums, such as electricity, Roentgen rays, magnetism, mechanic vibrations, artificial germicides, and the whole brood of mechanical, chemical and mental therapeutics, may succeed for a time in liberating the diseased individual from the chain of causal relations, through which he is connected with the ultimate consequences of violations of vital laws in the past, the benefits derived have no ultimate permanence. For the retributive action of law can only be temporarily escaped; the vital vacuum back of the disease has not been equilibrized, but ever ready with the persistence and immutable surety of gravitation to bring the individual within the sphere or forum of his violations, where to submit him to the restorative processes of recurring physiological disturbance.

No vicarious atonement in the realm of law. The balance of life can be restored only by him through whom it is broken. "Over the gate of every lost paradise," said Mohammed, "hangs the shadow of a sword." To regain his forfeited dominion of health and happiness, the individual must once for all recognize the necessity of restoring his nature to the moral purity and harmonious interaction with life which he enjoyed prior to his departure from a normal and healthful mode of existence.

To its real origin no disease is purely physical. The very difference with which different individuals are affected by similar afflictions point irresistibly to constitutional differences, which in their turn refer to still deeper differences in temperaments, *i. e.*, differences of mind and motive. For is it not a universally recognized fact that mental characteristics are back of physical traits and anatomical structures, and, furthermore, that the reaction of an individual to a medical agent, a poison, contagion, or even accident, depends on the condition of his moral and mental nature? Who doubts at present that digestion and assimilation are influenced by the moods and feelings governing the mind of the eater? Fear retards digestion, and anger has been demonstrated to convert the ingested substances into virulent poisons, while with no less degree of certainty it has been shown that the receptivity or susceptibility of an individual to a contagion is in downright relation to the state of his mind at the time of his exposure.

This power, conscious or unconscious, of mind over matter, sends its influence to every center of physiological action, and as at the basis of this action lies the

single cell, it follows that in the latter is to be found the subtlest link in the chain of transmission connecting mind with matter. In this quivering, delicately poised point of unity, where the two world-poles of existence, mind and matter, have their threshold of exchange, initiating impulses are transmitted to the whole range of vegetative phenomena. Locked up in the dynamic centers of the cell, the subjective impulses as they arise in the mind generate batteries of latent potency, unsuspected and unmanifested, until at the time of some occasion or change in the physical environments the igniting touch is furnished which starts the vital explosions. The results, appearing in the various forms of physiological disorder, in susceptibility to cold, contagion or general infection, etc., indicate the channels or means of procedure by which the mental aberrations are neutralized and eliminated from the system.

While indigestion is often referred to as an incident, where physical disorder is directly or indirectly due to mechanic or chemical irritation in the stomach, and thus apparently independent of mental processes, the argument lacks real scientific force. For where resides the selective agent by and through whose interference the character of the ingested food-stuff is determined but in the mind of the individual, in his power of judgment and reason?

Furthermore, while structural tenacity and physiological power of development are susceptible to external influence in form of environment and heredity, yet who doubts at present that the functional basis of any vital manifestation lies in the inherent quality of the single cell, behind which is ever found the mental impulse, the dominant mood, the impelling emotion? For what is the cosmic unfoldment, known as evolution, but reactions of objective existence to subjective impulses? Hence, environment would be powerless in evolving a single structure were not its influence elicited and fashioned by interior, *i. e.*, mental or spiritual wants and aspirations.

That disease springs from mental or moral rather than physical causes has more than once found ample demonstrative support in experiments of physical science. It was only yesterday that Sir Frederic Treves, on a basis of sober and painstaking research, made public the statement that disease in any form or character is an unconstitutional, structureless, physiologically and biologically illegitimate phenomenon in human nature, arising like an electric storm cycle under the stress of abnormal conditions, and serving as an expediency toward the neutralization of the latter.

Thus, for instance, a "cold" is in reality a mere general systemic weakness taken advantage of by a micro-organism whose hostile movements in the exposed tissues, and the infection and thrombosis in the blood-stream, due to the subsequent poisonous excretions, constitute the elements and characteristics of any disease. The efforts instituted by Nature to rid itself of the foe furnish the diagnostic features which in their sum total form the clinical picture of the condition. In the phenomenon of sneezing we may thus recognize the first expediency toward getting rid of the malignant deposits; failing in this, Nature resorts to coughing as another means of expulsion. Following this, and in due proportion to the extent and seriousness of the invasion, the one after the other of a series well known and diagnosed chemical features, such as diarrhea, inflammations, tumors, ulcers, phthisis, etc., arise as saving measures of gradually increasing severity until finally when the limit of constitutional endurance of the individual is reached, the latter succumbs under the stress of the very means which were introduced in his system to save him from the ravishes of his victorious assailants.

Being thus in reality a mere life-saving expedient, the disease, with its entire physical field of operation, is logically reduced to an effect, the cause of which looms up in the sphere of metaphysical dynamics, as process of thought and mentality. And it is here in the dominion of the mind that the real work of restoration must take place, a restoration not so much proceeding from a change of environment, as from a change of thought and motive of the sufferer, a change moreover through which the proper environments would be rendered practically available.

For, as the seed thrown into the soil depends on the stimulation and replenishment of environments for its natural needs, but not for the emergence *de novo* of these needs themselves, so the human individual makes use of its environments only to the extent the realization of corresponding needs arise in his self-consciousness. And, furthermore, as the plant for its sustenance selects just those qualities and elements which conform to its evolutionary necessities, so the individual obtains from his environments just those characteristics and tendencies which correspond to the subtle nature and dominant moods of the mind itself. The difference, however, consists in the fact that while the needs of the plant are always true, and conducive to its natural development, the needs of the individual, as conceived of by his more or less insane mind, in most cases are untrue, and lead to the arrest rather than to the promotion of structural growth, the destruction rather than construction of functional powers.

And this brings us to the heart and practical issue of the subject. For the force of gravity of any subject is found in its practical application. Hence, the question arises, what mode and manner of existence will turn the tide of life from degeneration into regeneration? It has become a statement of authentic science that cause and effect are equal in force, and inseparable in concatenation, a statement which naturally implies that inasmuch as physical disorders are effects of mental causes, any process in order to neutralize the former must initiate corresponding causative changes in the latter, *i. e.*, must start motive powers, and give rise to ideals of a nature reversed to those which generated the original pathological tendency.

Belonging to a force-circuit of a purely physical character, it is natural that mechanical or chemical therapeutics, of any form, must remain inadequate in affecting causes, which deal with powers of thought and motive, a limitation of efficacy which is applicable to any and all purported curative agents outside of the zone of pure moral volition.

Yet, as has already been mentioned, the failure of these agents to affect absolute and permanent cures may not prevent them from affecting temporary changes in the position and character of symptoms, which, as the concrete forms of moral disorders, materialize, so to say, in pathological processes, and arise in due sequence within the horizon of clinical observation. As far as the immediate effect is concerned, the cure may be perfectly successful. For symptoms, being the organized form of disease, are naturally assailable by material agents, and thus in a position to be forced back into the matrix of the causative aberration.

In this retreat, however, they evade further pursuit, remaining suspended as isolated batteries of impure psychic force, and ready to reappear and explode in some new forms of disease whenever conditions become favorable. Beyond the threshold of the moral zone, *materia medica*, notwithstanding the ingenuity in its mode of application, is refused admission.

The only permanent cure, as far as the length and endurance of organized existence makes a cure possible, consists in evoking such agents of life by which the real seat of the cause, the moral nature of the individual, can be reached. Strengthening of the moral will constitutes the true and unfailing nostrum. By a series of self-consciously generated impulses aiming at a neutralization, momentum after momentum, of previous moral aberrations, as registered in corresponding pathologic changes, the individual may retrace and obliterate, step by step, the cellular memories in which lie preserved the physical records of the disease.

Wherever in human nature moral lawlessness, past or present, have interfered with the orderly functioning of the cell-life, a corresponding fiat of moral restriction must be issued for the elimination from the involved vital centers of its deterring, devitalizing, immoral force. And as individual evolution proceeds through a process of interchanging vacui, formed, unformed and reformed, in ascending or descending series, according to the progressive or retrogressive tendency of the moral impulse, it follows that the possibility of a reversion of the degenerating type must proceed through the

institution of a new order of vacui, which again means the stimulation and purification of man's moral nature. For only through a firm, positive, morally self-conscious, volition, can these vacui, or system of vital locks be reversed into an action more responsive to the purer, truer, diviner order of life with the subsequent reaction in a dignified, morally poised and sensually restricted order of conduct.

The difference between mento-physical and moral-spiritual therapeutics may be illustrated in the figure of a stream descending from a pure mountain spring, but at a point of its course rendered turbid by a disturbance in its channel. Passing down to centers of population where the water is utilized, the need and necessity of its purification is vitally felt, and met by efforts in the application of appropriate local devices, which while improving the condition of the water are yet inadequate to reach the real cause, and hence gives rise to perpetual expense in time, worry and labor. Evidently there can be but one line of action by which satisfactory results may be insured, the resolute search for the real cause of the difficulty followed by its positive, unconditioned removal.

Applied to the moral and physical nature of man, this illustration indicates the scope and character of individual redemption from sin and disease, the necessity of a vigorous, relentless eradication from one's moral nature of every impulse toward egotism in any form or mode of life. For as balance, equipoise, morally not less than mentally, is the ever-manifesting aim of Nature, it follows that the elimination of a vice must inevitably, and with vital necessity, be followed by the restitution of a corresponding virtue which means the re-establishment of physiological harmony-health. Hence, as Nature invariably aims toward a normal order of existence, proceeding from within outwardly, from the moral to the physical zone of action through efforts of self-conscious control by the individual over his moral and mental life, clearing up and re-opening obstructed channels of action, it must follow that the life-stream will regain its purity and good health, and re-become the only possible expression of existence. For good health is to him who persistently observes the moral order of life as ultimately inevitable, as sickness is to him who pursues an opposite course of life.

The chain of vital causation proceeds from a moral to a physical order of existence through the successive stages of thought, word, and action. Now, if these three stages of transit correspond to each other, *i. e.*, if we express in word and deed what we have previously conceived of in thought as true and just, we remain true to life, and continue to be sustained by the harmonious health and strength-generating power of the universal will. But, on the other hand, if the individual talks and acts contrary to his moral convictions, the vital current becomes deflected from its destined course, and at the point of rupture starts a line of veritable mental breakers, which in due time and under the stress of an inevitable causation gradually assume the form and expression of functional disorder and disease. Thus, disease is crystallized or organized falsehood, a moral inharmony, translated into concrete and sentiently appreciable discords.

Hence the *sine qua non* for the attainment and permanent possession of physical health lies in the previous attainment of moral health, while any effort aiming at physical development for its own sake, unaccompanied by motives of usefulness, through an increased power of service in relation to human needs and suffering, is not only morally illegitimate, but also ultimately futile. For if health be harmony, and harmony the undisturbed movement of constitutional parts towards a center of universal unity with its related identity of fundamental interest, it becomes a matter of sheer scientific logic that any effort of the individual toward isolation in everyday life from his fellowmen must introduce unsurmountable obstacles in his attainment of permanent health. And this implies the true character and purpose of health, a means by which an individual may render himself felt as a useful and beneficent factor in the lives and destinies of his fellow creatures.

A state of normal existence, health, is as ultimately inevitable to the true and righteous man, who observes the laws and principles of his nature, as disease is to

the wrongdoer, who defies his conscience, and obeys the cravings of his animal instincts. A man who is true to himself, to life, and to his fellowmen, can not possibly err in his relation to physiological laws and dietary principles. At one with Nature, and *en rapport* with her creative impulses, such a man has in the very foundation and integrity of the universe a guaranty for his own evolutionary safety and imperishable survival, value.

A shareholder in universal life, he becomes a recipient of its manifested powers. Like the infant in the legends of ancient Greece, to whose cradle the gods and goddesses of Olympus brought their powers of immortality: Zeys, majesty; Hera, maternal graces; Aphrodite, beauty, loveliness; Athene, wisdom; Apollo, genius; Hercules, strength, etc., so the individual who is true to his soul, and lives in conformity with the laws of life, will receive the strength and integrity of the rock, the purity and generative powers of the waters, the calm, dignified poise of the forest, the attractive charm and tender touch of the flower, the boundless vision and exhaustless energy of the sun, and the majesty and lofty presence of the starry sky, etc. He will become a receptacle of organized consciousness, in which the whole ensemble of animated energy and cosmic creative intelligence will find a channel of expression dispensing with all the various and varied nostrums of old and new schools of super-imposed healing. For after all it is in the very existence itself, in the air we breathe, in the water we drink, the thoughts we think; in other words, in the life we live, that every aspect of the world's pharmacopeia, with all its healing and regenerative power, is contained,

Hence, take courage and confidence in thyself, oh man! and from the cowardice of worshiping man-made medicines, with their false claims of vicarious atonement, turn to the one living infallible, eternal medicine of the very life itself. Be a man! Be true to thyself! Be brave! Across the deserts of time, between us and the old testament, we may yet listen to the reverberations of the mighty God of the prophets in his charge to the prostrate Esaias: "Stand on thy feet, oh man, and I will speak to thee!" And what greater mission of life or nobler excuse for being can be found than to join Cosmos and its sustaining genii in the service of the true and sacred in existence, than to cherish the beautiful, love the good, encourage the right and honor the true in all its vestures?

In the human will we have the forge of destinty, the resistless lever in moral evolution. And while the mastery of will requires the greatest of all efforts—yet the feat is nevertheless not impossible. In the consciousness of universal intersolidarity lies a tremendous motive force by which the action of will may be evoked. To realize that we all stand and fall with each other, that our thoughts and feelings are contagious, and that every impulse, arising and supported in and by my mind, either lifts or lowers the level of morality in the lives of humanity, can not fail to quicken every momentum of noble resolve capable of being generated in a human soul.

For I am responsible, to the extent of my motive and will force, for the character and survival-value of the world's soul-life. Humanity is poised on the pivot of my thought, and its moral valuation trembles in the balance of my resolutions. In the process of my thoughts I generate force currents for weal or woe, elevation or degradation in the moral consciousness of my fellow-creatures, while, *pari passu*, in conformity to the cosmic law by which the momentum of every effect inevitably returns to its generating cause, shall I at some stage of my destiny, in some form or other, encounter the once let loose momentum, and be compelled to neutralize its influence by an adequate expenditure of emotional force in and through my own nature.

But while the fact of an inevitable retribution must furnish in every thinking mind a powerful motive force for the evolution of the moral will, there is in human life a far greater force for good. This force is love! Love is the force *par excellence* in moral evolution. It is the fire which by consuming the old and degenerate, gives birth to the new and elevating in existence; it is the oil on the turbid waters of life under the harmonizing action of which the deeper and

nobler forces of human nature can liberate themselves. Without love life is crystallized and inert, goodness wrecked, and beauty ruined. The cementing force in human existence, physiologically, socially, morally, and its significance in the affairs of men has very nobly been expressed by Dean Howell in one of his latest products of fiction, "That to be intelligible every picture of human life must be shaded by love."

And as harmony, by inducing an uninterrupted action of life on all planes of existence, generates health and growth, and love is back of harmony, it logically follows that unless the power and genius of love rule the thought and motives of the individual, his health, be it mental, moral or physical, has no guaranty of permanence.

129 S. Flower Street.

[Written for the MEDICAL BRIEF.]

Asclepias Tuberosa.

BY J. A. BURNETT, M. D.,
Dean Spring, Ark.

In a general practice there are but few remedies which are more often indicated than asclepias tuberosa. It can be used alone or in combination with various other remedies. Asclepias is of value in all fevers and especially in fevers when the skin is hot and dry.

A combination of asclepias, aconite and ipecac makes a valuable febrifuge for almost any fever.

In pneumonia and other lung complaints asclepias will be found to be a remedy of great value, as no other remedy can fill its place in such conditions. It has no substitute in this or in any other disease. In pneumonia it can be combined with bryonia and aconite, or when there is a tendency to septic condition, combine it with echinacea.

It is a good remedy to use with echinacea in any condition in which echinacea is indicated, as it greatly enhances its action.

Asclepias is a very valuable relaxing diaphoretic, which makes it have a wide range of usefulness in various diseased conditions. Its relaxing and diaphoretic action is increased when combined with lobelia. Asclepias, when combined with ginger and scutellaria will equalize the circulation, stimulate the patient, and quiet the nervous system. This makes a valuable compound for many diseased conditions. It is useful in neuralgia, restlessness, during fevers, intercostal neuralgia, and most eruptive diseases. There are but few acute diseases but what asclepias, if properly used, will benefit. It is an old remedy, but much overlooked by most all physicians. It is a non-toxic agent, and can be used with safety in any condition.

One writer said it could be used with benefit in any diseased condition. Physicians who do not know the value of asclepias are missing much that is of real value in the practice of medicine.

There is one thing to remember, when using this remedy, and that is to be sure to get a reliable preparation. The ordinary fluid extract of asclepias is of but little practical value, and will in most cases disappoint the physician, as well as the patient. A hot infusion is reliable in all conditions where quick action, or the diaphoretic effect is desired. Asclepias has been used extensively by certain classes of physicians for a long time, and it is a remedy that will never drop out of use, for when a physician once becomes familiar with its action in actual practice he will always use it.

Asclepias is well accepted by the stomach and is not bad to take, which makes it still more popular, especially for those who object to bad-tasting medicines.

[Written for the MEDICAL BRIEF.]

Whisky a Remedy for Hernia.

J. S. LEACHMAN, M. D.,
Higley, Okla.

About the time I entered into the practice of medicine (thirty-six years ago) a brother of mine was called out to see a German who apparently was about to die of strangulated hernia.

He did all he could to reduce the hernia, but made a failure and had another physician called, and they both failed. They began to make ready to operate, but the

Dutchman said no, no, so they left him to die.

The old fellow was a terrible drinking man, so he had his better half get a gallon of whisky and kept on drinking it till he got it to stick, got dead drunk, and when he awoke the hernia had gone back, to the great surprise of the two physicians. I made a note of this. Years after this I was called to see Dr. W. D. Malone, of Prairieton, Ind., in a similar case and called in Dr. L. Ball, and we both failed to reduce. I told Dr. B. of this circumstance, so we concluded to turn Dr. Malone over to the saloonkeeper during the night. Malone was a terrible temperance man, and he and the saloonkeeper did not get along well; however, he was willing to drink the whisky, so, as we went home, we stopped at the saloonkeeper's and sent him down. About twelve or one o'clock that night I returned to find the hernia all right, but Doctor pretty full. Several years after this a Mr. Rhube Akers, near Brazil, Ind., got up to build a fire in an old-fashioned fireplace without putting on his truss, and in lifting a large log (a back log as we call 'em) his hernia slipped out, becoming strangulated, and he suffered all day. I was called and got there about night; did all I could and sent one runner after Dr. Jo Gifford, of Brazil, and another after whisky. Whisky arrived about midnight, and about good daylight I stepped out and could see Dr. Gifford's buggy just coming in sight. I went in to tell them Doctor was coming, and Mr. Akers was up on his hands and knees moaning and groaning, but all at once he fell like a beef that was shot and said, "Doctor, I am all right," and sure enough he was.

We told Mr. A. not to get up without his truss on any more. I moved to Tennessee and in about three or four years after this I got a letter saying that Mr. A. got up to build a fire without his truss on and his rupture came out, and the result was death. I do not know whether whisky was used this time or not.

When I was attending medical college Prof. A. B. Cook, professor of surgery in the Kentucky School of Medicine, often told the class that the only cases he ever cured of tetanus was with whisky. Now do not take me to be a whisky doctor, as I scarcely ever use it in practice as general stimulus, as I think we have others much better, yet in strangulated hernia or tetanus surely whisky would be my remedy. If my jottings from a thirty-six years' country practice will be the means of helping some physician out and the kind Editor does not cast them aside, the readers of the BRIEF will hear from me from time to time during the year.

[Written for the MEDICAL BRIEF.]

Climate in the Treatment of Consumption—A Reply to J. A. Cox, A. M., M. D.

BY MADISON M. MILLIGAN, M. D.,
Las Vegas, N. M.

As a physician, doing a special practice in tuberculosis in New Mexico, I feel called upon to reply to the article of Dr. J. A. Cox, of West Virginia, in April issue of the BRIEF. My reply is not written in a spirit of carping criticism, but in the hope that Dr. Cox and perhaps others who are of his opinion may broaden their views.

Climatology seems to be a science, but darkly understood by many Eastern physicians, and this is one great reason that more benefit has not been derived from sending consumptives to this glorious Southwest. I will give an example of this ignorance, and the evil done by it. A patient came to me last summer—it did not take even an experienced eye to see that he was quite in an advanced stage of pulmonary tuberculosis, but it was absolutely impossible for me to do anything with him, and why? Because his physician in St. Louis had told him he needed nothing but to go to New Mexico and live in one or other of some half dozen little towns named, and after six months' residence there he would be entirely well. I could have treated the young man and certainly improved his condition and prolonged his life, even if cure might not be, in his case, possible, but for the comfortable prognosis of his former physician. His air was one of complete self-satisfaction, with no fears of any kind and no need of assistance; he remained one week in my care, and experiencing

the gain in weight and better feelings which usually follow the change in climate and suitable food, he thought he was getting along so finely he would try another of his doctor's little towns and see around, so he passed on. In all human probability he would die within the six months.

The first great need of a sick man is a *physician*, that is, one who knows what is wrong and what to do for it. What unlimited presumption for a doctor when he feels and knows that he can do no more for his patient to declare that nothing can be done, and another presumption to play the role of an obstructionist and turn down the methods of other men. I hold that no man has a right to turn down any method, however seemingly worthless or absurd to him, unless he can offer one which he considers, and for good reasons, a better one. It takes thought, care, time and some brains to evolve a system of cure of any disease, but it takes *none* of these attributes to be a mere obstructionist.

There have been and are good reasons why consumptives are sent to these altitudes and these sunny skies, and it is only because of our ignorance of any further step than the breathing of good, pure air for consumption, that we have not profited much more from these inestimable natural advantages.

I have practiced and been a close observer of results in this climate for twenty-five years, and I take the position that while climate is a magnificent factor in the treatment of tuberculosis, there is no climate which will, unaided, cure more than a very mild case, and a patient has much better chance of recovery in a poor climate under the care of an intelligent, well trained physician, that he has in the very best, if left to his own devices, or is under the care of an ignorant and unskilled doctor.

Dr. Cox laments the "inhumanity" of removing the patient from the comfortable surroundings of his home to "so-called health resorts often opened and controlled through purely mercenary motives," and, "which are," he continues politely, "little more than pest houses teeming with bacilli."

I am a strong advocate of removing the patient from the environment in which the disease was developed, whatever that environment may be. Is the word home, however sweet, always a synonym for hygiene or the name of the family doctor, however loved and venerated, always a synonym for skill? Verily, when a man has been permitted to become a pronounced consumptive, it will behoove him to remove himself as quickly and as far as possible from the family cook, likewise from the family doctor.

Too often the patient is impoverished by long illness and corresponding doctor's bills before he is sent out West, and makes up his mind that doctors are costly and not much help. In this country, where all living is highly expensive, it is hardly possible to charge patients enough to make such an undertaking as a health resort worth while from a merely "mercenary motive." It is quite possible in this country for a man who has sense enough to practice medicine, to live independently of his practice, and even to do something which will pay him a great deal better from "mercenary motives."

Institutions here which are conducted from purely "mercenary motives," if any such exist, will be found in the hands of typical Eastern men.

And would the doctor think of calling Eastern hospitals where sepsis in all its forms is handled continuously "pest houses teaming with bacilli?" does he know that the terrible tubercle bacilli, which has been blamed for so much more than it has been guilty of, can only exist four hours in New Mexico sunlight?

I say from my many years of personal work and experience that this is the climate par excellence in which to treat consumption, but it needs treatment, and active treatment, too, here, as well as anywhere.

The great reason for the supreme advantage of this climate is its bracing, delightful dryness, which renders entire out-of-door life safe and pleasant; anyone who has never camped out here and

slept under the stars, cannot appreciate it to its full extent.

Too many Eastern physicians seem to hold the opinion that the practitioners of the West are largely composed of an inferior class of men—that they in the East have so much better opportunities, etc. I do not think that the percentage of medium doctors is any greater in the West than in the East, and as for opportunities, some men can let them pass unseen even in the East, and men who seek them will find them anywhere.

A physician who has nothing better to offer his consumptive patient in this advanced and advancing age than an advice to live out of doors, and eat as many raw eggs as he can possibly swallow, had better "get busy" and do some studying, or else turn his attention to some calling for which he is better adapted than the practice of medicine, for surely the doctor who takes his patient's money, without giving an equivalent in useful services, is nothing but a fraud; he not only takes his money but robs him of time which he might use to advantage under the guidance of a better man—and so destroys all chances of his recovery.

It would astonish any one unacquainted with these matters to know the number of health seekers who have been cautioned by their Eastern physicians not to consult any doctor in the West; these poor people keep on taking the old doses, and reporting from time to time, as well as they can, to a physician who knows practically nothing of the country in which they live, or the conditions of their daily life. It would be still more surprising to know the number who have never had any physician at all, but act under advice of some Eastern druggist, and send back for repeated bottles of some nostrum. I have known this class of patients to live in this country weeks, even months, and never seek the help of a physician until the night of the final hemorrhage—then some one rushes out and calls the nearest doctor who will attend the call.

Is it any wonder, then, I ask of all intelligent, fair-minded men, that our matchless climate has apparently failed to be the "cure all" which it was expected by these people to be? And whose fault is it?

[Written for the MEDICAL BRIEF.]

A Few Thoughts in Medicine.

BY W. S. ROBINSON, M. D.,
Nashville, Ark.

We are taught that sweet milk is a good media—and very favorable for the growth of bacteria—but can not thrive in an acid medium.

I have long since quit prescribing sweet milk and meat broths for my typhoid patients, and instead buttermilk and grape juices, with lemon juices in these drinks, and I have lost no cases in the last fifteen years. Do not feed your typhoid fever patients too much.

Hyoscine, if properly prescribed, will permanently cure any case of drug addiction. I care not how old or how much they take of the drug or the kind of drug. I have cured over two hundred cases without a failure with hyoscine.

Have you ever thought when to give stimulants? The first thing to bear in mind is the difference between direct and indirect stimulation—stimulation should not be resorted to until it is needed.

The heart must be considered as only a part of the whole circulatory system, and not the circulatory system alone. The whole system must be taken into consideration. Sometimes the fault is not due to circulation, but to insomnia.

Stimulation should be resorted to only in cases of marked changes in the patient's condition. And the responsibility of giving a stimulant belongs to the doctor; he has no right to ask the nurse to assume it in such cases.

I see the dear old MEDICAL BRIEF continues to do business at the same old stand. "*Soking and guine-on.*"

A Correction.

In the article on "The Medical Teaching of London and Paris," in July issue, 1906, the author, Dr. E. Lucas Hughes, of Liverpool, England, writes us that the word *seesawing* should read *sawing* (see page 454, 7th and 12th lines). "Of course, no one would be so insane as to make a seesawing motion with a knife, but many recommend a *sawing* motion."

Book Notices.

A TREATISE ON DIAGNOSTIC METHODS OF EXAMINATION. By Prof. Dr. H. Sahli, of Bern. Edited, with additions, by Francis P. Kinnicutt, M. D., Professor of Clinical Medicine, Columbia University, N. Y.; and Nath'l Bowditch Potter, M. D., Visiting Physician to the City Hospital and to the French Hospital; and Consulting Physician to the Manhattan State Hospital, N. Y. Philadelphia and London: W. B. Saunders & Company. Octavo of one thousand and eight pages, profusely illustrated. Cloth, $6.50; half morocco, $7.50.

We have been anxiously awaiting the publication of Dr. Sahli's great work in English. Its immediate success in Germany will certainly be repeated in this country, and the English-speaking profession owe to the publishers a debt of gratitude for their enterprise. Not only does the distinguished professor exhaustively consider all methods of examination for the purpose of diagnosis, but the explanations of clinical phenomena are given and discussed from physiologic as well as pathologic points of view, and with a thoroughness never before attempted in any clinical work. The examinations of the stomach, sputum, feces, urine, and blood, are exhaustively treated. There is an article from the pen of Dr. Theodore C. Janeway giving a brief review of the investigations of American and English observers upon the value of the clinical estimation of blood-pressure, with a description of some newly devised instruments. Some of the new features in the chapter on urine examination are: Seliwanow's reaction for levulose, Bial's test for pentoses, and quantitative determination of urochrome after Klemperer. Osmotic pressure and cryoscopy of the urine are also discussed at length, and a description is given of Liebermann and Posner's method of staining urinary pigments. In the chemical examination, much attention is directed to describing methods, and this is done so exactly that it is possible for the clinician to work according to these directions. The nervous system has been very elaborately detailed, giving unusual space to electrical examination. Indeed, the American edition of this great work contains all the material of the new fourth German edition, with which it simultaneously appeared. Many illustrations have been added by the editors. The work is indispensable to the practitioner.

GALL-STONES AND THEIR SURGICAL TREATMENT. By B. G. A. Moynihan, M. S. (London), F. R. C. S., Senior Assistant Surgeon to Leeds General Infirmary, Leeds, England. Second edition, revised and enlarged. Octavo of four hundred and fifty-eight pages, beautifully illustrated. Philadelphia and London: W. B. Saunders & Company, 1905. Cloth, $5.00; half morocco, $6.00.

The first edition of Mr. Moynihan's work on gall-stones was completely exhausted in eight months. Mr. Moynihan, by his masterly presentation of operative technic and clear, logical discussion of indications and contra-indications, has won an enviable place in contemporary abdominal surgery. In this edition, increased in size by some seventy pages, many additional case records have been incorporated, and a number of new illustrations added. We note, also, the addition of a very valuable chapter, "Congenital Abnormalities of the Gall-Bladder and Bile Ducts." It is evident that the whole text has undergone a careful revision, and all recent work along the line of gall-stone surgery included. Mr. Moynihan's book still holds first place in its field. The illustrations are very beautiful, especially the nine colored plates.

GENITO-URINARY SURGERY AND VENEREAL DISEASES. By J. William White, M. D., John Rhea Barton, Professor of Surgery, University of Pennsylvania, and Edward Martin, M. D., Professor of Clinical Surgery, University of Pennsylvania. Illustrated with three hundred engravings and fourteen colored plates. Sixth edition. Philadelphia and London: J. B. Lippincott Company. Price, $6.00.

After a thorough reading of this work, we find that the statement in the preface has been fully carried out, therefore we give the author's version: The sixth edition of Genito-Urinary Surgery and Venereal Diseases has been revised in accordance with the latest teaching and practice of those most skilled in this branch of surgery. This has involved a study of current literature, and a selection from it of such facts and procedures as have been proven worthy of general acceptance.

Though the technique of the genito-urinary specialists has not been revolutionized in the last two years, it has in many respects been greatly improved. It has been our purpose to embody in this textbook all these improvements. It has seemed desirable to insert many new illustrations, and in some cases, notably in discussing prostatic hypertrophy, to rewrite some sections. Without enlarging the work, it has been made more clear, direct and practical, a feature that will appeal to all practical scholars.

A TEXT-BOOK ON THE PRACTICE OF GYNECOLOGY. For Practitioners and Students. By W. Easterly Ashton, M. D., LL. D., Fellow of the American Gynecologic Society; Professor of Gynecology in the Medico-Chirurgical College of Philadelphia. Second edition, revised. Octavo of one thousand and seventy-nine pages, with one thousand and forty-six original line drawings. Philadelphia and London: W. B. Saunders Company, 1906. Cloth, $6.50; half morocco, $7.50.

The fact that two editions of Dr. Ashton's new work have been required in the short period of six months indicates beyond a doubt that the medical profession was quick to appreciate the practical merits of the book; indicates that the general practitioner wants a treatise on gynecology that does not assume him to be an expert gynecologist, but rather describes in detail not only what should be done in every case and emergency, but also precisely how to do it.

ELLIS'S DEMONSTRATIONS OF ANATOMY. Being a Guide to the Knowledge of the Human Body by Dissection. Twelfth edition. Revised and edited by Christopher Addison, M. D., B. S. (Lond.), F. R. C. S., Lecturer on Anatomy, Charing Cross Hospital, Medical School; Formerly Hunterian Professor, Royal College of Surgeons, England; Examiner in Anatomy, Royal College of Surgeons, England, etc. Illustrated by three hundred and six engravings, of which seventy-five are in color. New York: William Wood & Co. Price, $3.50.

When a work has reached its twelfth edition, and the demand for it increases, it would seem to be a waste of space to dilate on its value as a work of worth, yet many of our recent graduates have not added the book to their libraries, and to these especially we wish to say that the matter has been altogether re-arranged, and now follows the ordinary course of dissection as taken by students, beginning with the simpler anatomy of the upper and lower limbs, and ending with the more complex parts of the head and neck and the organs contained therein. Then you must consider that sixty-two illustrations have been added, and amongst the colored ones will be found many of the bones showing the attachments of the muscles. We predict that the work will continue to be a popular one, and be a good educator.

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This is the first volume of the sixteenth series of this most excellent quarterly, and appeals to every physician in general practice as the leader in original matter of a wide scope of knowledge by the leading men in the medical profession. All who have secured this work in past years have nothing but praise for it. The illustrations in black and colors alone are worth the price. An article on "A Method of Lengthening the Achilles Tendon and Other Tendons," by Russell A. Hibbs, M. D., is worthy of notice. "The Diagnosis and Treatment of Membranous Tonsillitis," by Lewis S. Somers, M. D., shows that this disease can be cured by ordinary remedies. There are so many excellent articles in this work that we are sorry to say lack of time and space forbids mention.

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Editorial.

Socialism Not Conducive to National Wealth.

The recent visit to this country of Sir Joseph George Ward, Premier of New Zealand, was the occasion of much free advertising for the Australian Commonwealth, which we are told is the richest country in the world, and it incidentally served as a boost for the propaganda of government ownership and other socialistic ideas in this country.

As is well known, the railroads, telegraphs, telephones, steamboat lines and other public utilities are owned and controlled by the New Zealand government, and the state also has entered into competition with its own citizens in several lines of private industry. The inference insisted on is that the alleged prosperity of the island is the direct consequence of these policies of its government.

Admitting for the sake of argument that the island is as prosperous as it is claimed to be, it is by no means conclusive that this prosperity has been produced by or is due to the activities of the government. *Post hoc ergo propter hoc* is mighty poor reasoning, though it is often convincing to superficial thinkers. Because one thing follows another, or rather, because two things are coincident, does not mean that one is produced by the other, and about the first thing we learn in studying logic is to guard against any such false reasoning.

It must be remembered that New Zealand is a new and fertile country; that it has an area considerably more than twice that of the State of New York, with a population not much larger than that of the city of St. Louis. In all new countries laborers are scarce, work is plentiful and wages high, just as is the case at present in New Zealand, and, therefore, we believe that the governmental policies of New Zealand are not entitled to the credit for the prosperity of its inhabitants, even if such prosperity really exists.

But is this wealth as great as it is claimed to be? We think that we can show that it is not.

According to the reports of the government, the public debt of New Zealand amounts to about one thousand six hundred and twenty-five dollars to every family on the island. In this calculation we have estimated five individuals to a family, though being a new country the average would probably be six or seven. It can be seen, therefore, that our estimate of one thousand six hundred and twenty-five dollars is a very conservative one. But admitting it to be no greater, how does it compare with the public debt of this country, whose people are being persuaded to adopt New Zealand's policies as the means to get rich?

The present per capita debt of the United States is about ten dollars. Multiply this by five and we have fifty dollars to the family, as against one thousand six hundred and twenty-five dollars to the family in New Zealand. Add about two dollars per capita, or about ten dollars per family, for the debts of the several states, and we have about sixty dollars of public debt to the family in the United States, which shows the public debt of New Zealand to be about twenty-eight times as great, in proportion to population, as is that of the United States.

Now, suppose New Zealand should be compelled to pay what it owes, would it still make such a fine showing as regards its per capita wealth? Of course not. We, therefore, consider the claims made for that country as false and deceptive. A man may go in debt for a large amount and with the money thus acquired can make an *appearance* of great prosperity, but it will be *only* an appearance, for his real financial worth will be what he owns *in excess of his indebtedness.* What is true in this respect as regards an individual is true with a government.

With foreigners furnishing New Zealand all the millions of money which its governmental activities may require; not having the expense of a large standing army; with its defenses paid for by the British government; with land plentiful, cheap and fertile, and with all other advantages which are incident to a new and simple civilization, New Zealand may make an appearance of prosperity which will deceive the unthinking. But men who look beneath the surface of things will recognize this alleged prosperity as but an illusion.

The American people ought not to be misled by any such false appearances. We have grown to be the wealthiest and most powerful nation on the globe. These ends have been attained by individual effort. We can gain nothing, but we can lose much, if not all, our greatness by the adoption of socialistic policies. People of the Anglo-Saxon race do not require governmental props. All they want is the privilege "to work out their own salvation," without the aid or interference of the state, even though it be with "fear and trembling."

Starvers and Stuffers.

There are two theories held by the profession in regard to feeding patients. Some physicians give their patients very little food, giving the system a rest; others give food frequently, claiming the body should be thoroughly nourished.

We asked an old country practitioner which side he was on, and he said: Tell the medical profession to notice which can stand the most, old women who are fat, or old women who are thin.

[Written for the MEDICAL BRIEF.]

Hyoscine in Drug Addiction.

BY GEO. F. WRIGHT, M. D.,
Ellsworth, Kan.

On page 674, September number of BRIEF I notice in an article, "A Few Thoughts in Medicine," by Dr. W. S. Robinson, this statement: "Hyoscine, if properly prescribed, will permanently cure any case of drug addiction." Now, if Dr. Robinson will kindly state what he considers the proper way to prescribe the drug, so as to produce such results as he claims, he will confer a favor, the importance of which can hardly be estimated. I trust he will be clear and exhaustive, and I will say that for the first time in my life I have asked a question and had it answered.

THE MEDICAL BRIEF

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[Written for the MEDICAL BRIEF.]

The Medicines and Medical Practitioners of Ancient Rome.

BY HENRY BARNES, M. D., (EDIN.), L.L. D. (M'GILL), F. R. S. E.

Consulting Physician to the Cumberland Infirmary; Vice-President (late President) of the British Medical Association.
Carlisle, England.

It is generally considered that the history of medicine starts with the earlier period of Greek civilization. The Homeric heroes are represented as having considerable skill in surgery, and as being able to treat ordinary wounds and injuries. The two sons of Asklepios, Podaleirios and Machaon, are especially treated with great respect, the former having received from his father the gift "of recognizing what was not visible to the eye, and tending what could not be healed," while the task of Machaon was specially to deal with injuries. There would thus appear to have been even in these early days a separation between the domain of medicine and that of surgery.

The worship of Asklepios, as the god of healing was called, was widely spread among the Greeks, and lasted even to Christian times. Temples were erected in his honor at various places, the principal being at Epidaurus; but minor ones were erected at Athens, Cos, Pergamos and other places. Crowds of sick people flocked to these shrines to be healed, just as in modern times relief is sought by a pilgrimage to the waters of some sacred spring. During the last five-and-twenty years the revival of interest in archeological research has led to the exploration of the shrines of the god of healing at Athens and Epidaurus, and many interesting inscriptions have been brought to light. In the earlier times the health-restoring influence of the shrines seem to have been almost miraculous, and the most wonderful and absurd reports of cures are to be found among the earlier inscriptions. I content myself with giving two extracts from the records of Asklepios at Epidaurus:

(1.) A man who had only one eye is visited by the god during the night. The god applies some ointment to the empty orbit. On awakening the man finds he has two sound eyes.

(2.) Herœus of Mytilene has no hair on his head. He asks the god to make it grow again. Asklepios applies an ointment, and next morning the hair has grown thickly over his scalp.

The record unfortunately does not disclose the nature of the wonderful ointment used in either case. In later times superstition and deception had a less share and rational treatment a greater share in the cure. We find the priests prescribing plain food, hot and cold baths, active gymnastic exercises, counter-irritation, and a variety of medicaments. The

following thanksgiving of one cured of the gout is interesting:

Oh, Blessed Asklepios, god of healing, it is thanks to thy skill that Diaphantes relieved of his incurable and horrible gout, no longer moves like a crab, no longer will walk upon thorns, but has a sound foot, as thou hast ordained.

The Romans do not appear to have possessed an independent school of medicine. It is true they had, from early times, a complicated system of superstitious medicine, or religion related to the cure of disease, borrowed probably from the Etruscans. In the older days of the Republic the master of the house appears to have undertaken the care of the health of his household. We get a good idea of the conditions of family medical practice in the *De re Rustica* of the elder Cato, who practiced surgery on his own estate. Two long chapters in this work are devoted to the virtues of the cabbage as a remedy, and the various diseases for which it can be used. He summarizes its virtues in a single sentence: *Ad omnes res salubre est.* It was his panacea for the most different forms of disease, whether dullness of hearing, dimness of sight, polypus of the nose, cancer, ulcer, or tumor. For a dislocation he orders a cabbage poultice to be applied, and *cito sanum fiet.* If the remedy fails, then it appears that the aid of magic must be called in. You are directed to take a green twig, four or five inches long, and this, cleft through the middle, becomes the conjuring rod. Then the following incantation is to be used:

In Alio. S. F. Motas vœta daries dardaries astataries dissunapiter.

This extraordinary roll of magic words compares favorably with those used by itinerant quacks in the present day. The rhythm of the words suggests the manipulative movements which would doubtless be used with the incantation, as we are told that the patient is to be held fast by the hips by two men (*duo homines teneant ad coxendices*), and the latter half of the last word of the incantation is suggestive of the sound which a dislocated bone makes when it slips into its socket. Two other incantations are given, both suggestive of more violent manipulations to be held, apparently, if the first fails. These are:

(1) *Huat hanat huat ista pista sista domiabo damnaustra.*

(2) *Huat haut haut ista sis tar sis ardannabon dunnustra.*

Cato had no theories about disease except such as spring from mere superstition. He hated and despised the Greeks, and in writing to his son, Marcus, he warned him against their arts, and especially against their physicians. In his opinion, if Greek medicine once got itself established in Rome the end would not be far off, for that most wicked race had sworn "to exterminate the Romans by its medicine."

The first Greek physician whose name is preserved as having migrated to Rome was Archagathus, who came over from the Peloponnesus in 218 B. C., and many others followed his example. Archagathus was a citizen of Sparta, and he succeeded so well in overcoming the prejudices against his order that the Senate conferred upon him the privileges of a Roman citizen, and a surgery and dispensary were fitted up for him at the public expense in one of the busiest streets of the city near the Forum. A firmer footing for Greek medicine in Rome was gained by the advent of Asclepiades, who was born in Bithynia in 124 B. C. He went to Rome as a young man, and soon became distinguished both for his medical skill and oratorical power. His system of medicine appears to have been founded on the Epicurean philosophical creed. The charm of his manner, his dislike of strong remedies, and his faith in the therapeutic virtues of wine (which, under the stern régime of the Republic, women were forbidden to drink), made him popular, and he became the trusted adviser of men and women of all classes. He believed more in hygiene than in physic, and it was owing to his influence that the Romans became such devotees of the hot bath, massage, and the *cura cutis.* Of his pupils the most famous was Themison, who gave permanence to the teachings of his master by framing a new system of medical doctrine which lasted for some centuries. This system was known as "Methodism." He maintained it was useless to consider the causes of disease; it was sufficient to know what was common to all diseases, viz.: Their common qualities. Treatment

was directed, not to any special organ, but to correcting the morbid common condition; relaxing the body if it was constricted, causing contraction if it was too lax, and in the mixed state acting according to the predominant conditions. This simple rule of treatment was the system, or "method" from which the school took its name. Among other well-known Roman physicians about this period were Crateras, who, according to Horace, was the great authority on heart disease; Cleanthes, who stitched up the wound which the younger Cato made in his abdomen by falling on his sword; Antistius, physician to Julius Cæsar, who examined the Dictator's body after death, and found that of the many wounds inflicted only one was mortal; Alexion, whose death was deplored by Cicero as an irreparable personal loss, and Cleophantus, named by the same writer as *medicus suavis*.

Under the empire a new order of medical practitioners came into existence. Augustus was a great invalid, and in the hands of the doctors nearly all his life. His household swarmed with practitioners of the healing art. There were *medici servi*, who were slaves; there were *superpositi medicorum*, or overseers of the slaves, and of their assistants, or *adjutores valetudinarii;* there were the *unguentarii* and the *herbarii;* there were the female healers (medicœ) who devoted themselves to the diseases of women, and midwives (obstetrices and sagœ), a bad lot, who traded on the vanity, credulity and corruption of women. The best known physician of the Emperor Augustus was Antonius Musa, a freedman, who was fortunate enough to cure his Imperial patient from some liver complaint by cold bathing, and was, in consequence, loaded with honors. He was also the friend and physician of Agrippa, Mæcenas, and other distinguished persons. Tiberius, who ascended the throne on the death of Augustus, appointed Charicles as his physician, but, being a man of robust constitution, he could afford to laugh at doctors, and he told his physician that he might keep his physic for fools. Among the leading physicians of this period were Crinas, Alcon and Stertinius Xenophon, who accumulated large fortunes by the practice of their profession. Of later practitioners it may suffice to mention Thessalos, who lived in the time of Nero, and called himself Iatronices, or conqueror of doctors. It was about this period that the Emperor's physician first came to be known under the title of "Archiater," and this distinction was held by Andromachus, and by Demetrius and Magnus under Antoninus Pius and Marcus Aurelius. It would be easy to continue the list of names, but those I have mentioned will suffice to show that the majority were Greeks, bearing characteristic Greek names.

The Romans themselves had little taste for the healing art, and Pliny tells us that the profession of medicine was the only one of the Greek arts to which the Romana gravitas had not yet stooped. The fees obtained by some of these physicians were enormous. Pliny tells us that Stertinius earned, by his town practice, about 600,000 sesterces yearly, equal to about £5,000 of our money, and it is on record that one surgeon, Cami by name, obtained £2,000 for one operation alone. Such a profitable profession naturally attracted many to its ranks, and it soon became overstocked. This led to a subdivision of labor, and specialists became common.

In the latter half of the first century of the Christian era there were physicians who did not practice surgery, and there were surgeons who limited themselves to one kind of surgery operation. There were at least two kinds of eye doctors, one for the general treatment and the other for operations. There was also a special operator for the destruction of eyelashes which threatened vision. There were aurists, bone-setters and dentists. Incidentally it may be mentioned that dentistry is a very old profession. In the famous laws of the twelve tables the art of fixing teeth with gold is mentioned, and several skulls have been found in Etruscan tombs to which artificial teeth are attached by a system of gold binding identical with the bridge work of the modern American dentists. A good example of this occurs in the Museo Papa Giulio, and several others in the Museum of Corneto. In one of these two incisor teeth are replaced by a single calf's tooth filled in the middle. These dental works date back to the fifth century B. C.

It is not uncommon to read of a certain distrust of doctors in these ancient times,

and perhaps the old Romans were not far wrong, as in those days anyone could call himself a doctor who had attended a short course of instruction lasting only six months, and all could administer poison to those who were tired of life. It was easy in those days to escape punishment. Many doctors are mentioned who became the instruments of private vengeance. Glicon poisoned the wound of Pansa, Nero sent doctors to his rich aunt Domitia to hasten her end, and Agrippina also sent for a doctor, fearing that the poison administered to Claudius by the notorious female poisoner, Lucusta, should not prove fatal. Medical men were often sent to open the veins of prisoners, and we find them as accomplices in the assassination of Drusus and of Marcus Aurelius.

There were, however, notable examples of men who stood out nobly from amongst so much corruption and crime. Among these may be mentioned the two physicians in attendance upon the Emperor Severus, who, according to the testimony of Herodian, had been in attendance upon the Emperor during his Scottish campaigns. On the return of the Emperor to York his physicians received instructions from the Emperor's son, Caracalla, to hasten the death of the Emperor. Their refusal proved the cause of their ruin, for one of the first acts of the reign of terror and bloodshed of Caracalla was the execution of his father's faithful physicians.

There are scattered notices of physicians being placed in attendance upon Roman Senators, Consuls and Emperors during the course of military campaigns. Galen was summoned to attend the Roman Emperors, Marcus Aurelius and Lucius Verus, during their proposed campaign against some of the German tribes, and there is a notable example of a physician, who, while in attendance upon a Roman Emperor in Britain, made good use of his time. According to Sprengel, a treatise, *De Compositione Medicamentorum*, was composed by Scribonius Largus when attending Claudius during his short campaign in Britain (A. D. 43). Sir Thomas Browne confirms this statement.

The question of the provision made for the medical and surgical treatment of the Roman soldiers during their period of service in foreign countries, did not receive much attention from archeologists until a comparatively recent period. There is no distinct reference to the subject in the Roman classics. The late Sir James Y. Simpson established the fact that there was not only a medicus cohortis, but a medicus legionis, a kind of superior medical officer. One of the most interesting bits of evidence which he brought forward was a monumental tablet five feet by two feet six inches, found at Borcovicus, and now in the Newcastle Museum. The inscription shows that it was erected by the first cohort of the Tungrians to the memory of their medicus ordinarius. The distinctive term "ordinarius" is interesting. It is generally supposed that a cohort consisted of five hundred or six hundred men, and each cohort seems to have been provided with one medical officer at least. Several monumental and votive tablets refer to army medical officers. In Gruter's *Inscriptiones Romana* there are three in which physicians of cohorts are mentioned.

The discovery of various monuments may be taken as evidence that the worship of Asklepios, or Æsculapius, as he was known among the Romans, was not unknown in Britain. It was the custom of the Romans to seek relief from their sufferings, and both rich and poor flocked to the shrine of Æsculapius. Many interesting offerings or donaria have been found in the Tiber by the Island of St. Bartolommeo, where was a temple dedicated to Æsculapius. This temple was one of the first hospitals of Rome, and occupied the greater part of the island which was called Insula Sacra. The hospital was shaped in the form of a huge ship, and thus recalls the legend which is represented on some coins of the Emperor Commodus. During this Emperor's reign, a great epidemic prevailed in the city, resembling the famine and pestilence which prevailed from B. C. 293 to 291, when the Sibylline books were consulted, and these commanded that an embassy be sent to Epidaurus to fetch the God of Medicine and the Sacred Serpent. A trireme was accordingly dispatched, and the sacred objects were brought to Italy. On entering the Tiber the serpent escaped from the ship, and, swimming across the river, landed upon the island where a temple was soon erected to Æsculapius. Little of this now remains, but on the left-

hand side of the island part of the ship's side is still visible, with the famous serpent of Æsculapius sculptured upon it in high relief. Piranesi's engraving shows that a hundred years ago there existed, in addition, a colossal bust, and a hand holding the serpent-twined rod of Æsculapius. Many donaria have been found in the sands and river near the island, and much attention has been given to the offerings found at this and other shrines of the god of healing.

The shrines were usually situated at the source of some hot spring or mineral water, and patients used to come from far and near to bathe or drink the water. No doctors were found at the springs, but the priests regulated the use of the waters, and prescribed for each patient. Then, before leaving, the patient had to throw his offering into the water. At some of the shrines the custom was to hang the donaria on the walls of the temple or around the statues of the gods. When the temples or tanks of healing waters became overcrowded with donaria, the priests used to remove them to grottoes, or wells dug in the neighborhood, and sometimes a special building was erected to receive the donaria. Those which were composed of precious metals were often melted into ingots or disposed of by the priests according to special regulations peculiar to each temple. Magnificent offerings, such as cups of valuable metal, with votive inscriptions, have been found in different places.

There is another class of monument relating to the Roman medical profession and their practice in Britain which has attracted attention. These are the stamps which have been used for the purpose of impressing the names of the makers of certain medicinal preparations, and the purposes which they were intended to fulfill. Numerous examples of these medicine stamps have been found in Germany, France and Italy, as well as in this country. They are generally made of a greenish schist, or steatite, and consist of a small, thin, square block, usually with an inscription on each of the four edges. There are fragments of two in the British Museum, and the Museum of the Scottish Society of Antiquaries contains an oblong medicine stamp which was found at Trannent, in East Lothian, the site of a large Roman town. There are two inscriptions upon it:

(1) LVALLATINIEVODESADCI
CATRICESETASPRITVDIN
(2) LVALLATINIAPALACRO
CODESADDIATHESIS

The first part of each inscription shows that the proprietor was a physician called Lucius Vallatinus. The first-named prescription refers to a sweet-smelling collyrium named euodes, and was used for cicatrices and granulations. The second inscription has given rise to a good deal of speculation. Diathesis is the state of the body which predisposes to any disease. Possibly in ancient times the word may have had some other meaning. The apalocrocodes has been interpreted as "a mild crocodes," and may have been a general remedy against affections of the eye. A stamp found at Kenchester belonged to a physician named Titus Vindacius Ariovistus, and one at Gloucester to Quintus Julius Murrianus. The last named had two remedies, one for producing clearness of vision—*ad claritatem*, and the other intended as a remedy for dimness of sight —*ad caliginem*. It is considered rather remarkable that in all the examples hitherto described the diseases mentioned on the stamps are uniformly those of the eyes, and hence they are supposed to have been used only by those physicians who treated eye diseases. Diseases of these organs were very common, not only in Italy, but also in the Western Provinces, and the Romans gave great attention to them, there being numerous specialists for different forms of eye disorders. Writers who have devoted attention to this subject consider that the various preparations were hardened with gum, or some viscid substance, and kept in a solid state as being more convenient for carriage from place to place, and as being always ready to be liquefied with fluids when required for use. The stamps were impressed on the remedies just before they acquired the last stage of solidification.

It is with pleasure that I renew my subscription to your valuable journal.—J. WILKINSON, M. D., Los Angeles, Cal.

[Written for the MEDICAL BRIEF.]

Formicaldehyde and Its Uses.

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Antiseptics are drugs which prevent putrefaction by inhibiting the growth of organisms, whilst disinfectants are agents which destroy the germs and their spores. A perfect disinfectant should be non-toxic to man and animals, freely soluble in water and rapid in its action. As a minor, but practical point, it should not corrode metals, or it will be useless to the surgeon. The antiseptic dose of a drug is the smallest quantity capable of arresting the development of bacteria in a culture medium. Amongst the chemical disinfectants formicaldehyde occupies a place of some importance. In this paper it is not intended to deal with the whole subject of the pharmacological action and therapeutical uses of formicaldehyde, but only with certain phases which seem, for the moment, to be of interest.

Formicaldehyde (CH_2O) was discovered by Hoffman, in 1869, and during the last decade has assumed a prominent place as a therapeutical agent. It is made by the oxidation of methylic alcohol, the process employed being to pass the vapor over red-hot metal, or carbon. It is a gas soluble in water, forming a colorless fluid, having a peculiar odor and an exceedingly irritating taste. The forty per cent solution is commonly employed, and is usually spoken of as formicaldehyde. It has an acid reaction due to the presence of formic and acetic acids, and a specific gravity of 1070.

Formicaldehyde is a disinfectant, more powerful than carbolic acid and only slightly less active than corrosive sublimate. It is a powerful germicide, and destroys the toxins of diphtheria, tetanus and other diseases. It is employed for the disinfection of rooms and for this purpose various forms of portable apparatus have been devised for maufacturing the gas on the spot. It is chiefly a surface disinfectant, and has a limited range of penetration; for example, it will not disinfect closed books. Its vapor is not injurious to fabrics, metals or woods, nor does it discharge any of the ordinary colors, with the exception of violet and light red. Though destructive to micro-organisms it is inocuous to the higher forms of life, and will not kill animal parasites.

It is employed commercially as a preservative of fish, meat, and other foods. In the case of milk, one in twenty-five or thirty thousand, is commonly used, but added to milk as drawn from the cow, one in seventy-five thousand suffices. The quantity must, of necessity, be small, on account of its taste. The addition to cold milk of one in two thousand is readily recognized, and to milk warmed to drinking temperature, one in five thousand imparts a characteristic taste.

Against the use of formicaldehyde as a preservative it is urged that it renders food less capable of digestion, but the evidence on this point is far from conclusive. In investigating the subject it is necessary that attention should be paid (1) to the nature of the food; (2) to the amount of formicaldehyde added; and (3) to the length of exposure to the action of the preservative. Under the first heading it may be noted that egg and serum albumin are not rendered insoluble by formicaldehyde. Under the second heading it may be stated that, with respect to fibrin, the addition of one in one thousand of formicaldehyde lessens its digestive power by about five per cent, and of one in two thousand by about three per cent; percentages so small as to be of no importance. Under the third heading it is found that formalization (one in one hundred thousand) of beef steak for twenty-four hours, has practically no retarding action on digestion. Moreover, formicaldehyde, in five per cent solutions, exerts no inhibitive action on pepsin. In healthy children, one in five thousand in milk, and one in nine thousand in total food and drink, exert no influence on the nitrogen or fat metabolism, or on fat assimilation.

Respecting the pharmacological action of formicaldehyde comparatively little is known, except that it is a local irritant. Rosenberg, of Berlin, has shown that it can be detected in the blood. In his first experiment 0.48 grammes of formicaldehyde were given to a rabbit weighing one thousand six hundred and seventy grammes. At the expiration of twenty-

three hours blood drawn from the carotid artery gave the reactions of the drug. In a second experiment a rabbit weighing one thousand six hundred grammes, was given 0.38 grammes at a single dose, and blood drawn from the carotid artery at the expiration of twenty-three hours gave the characteristic action. In a third experiment a rabbit weighing one thousand four hundred and fifty grammes was given, in the course of fifteen hours, 0.76 grammes of formicaldehyde. Eight hours after the last dose the blood was examined and was found to contain 0.775 per cent of formicaldehyde. From these experiments it is clear that free formicaldehyde exists in the blood after the administration of adequate doses. That it is eliminated with the milk is shown by an experiment by the same observer. A suckling woman was given, in divided doses, in less than twenty-four hours, 0.15 grammes of formicaldehyde. On testing the milk, its presence was distinctly shown. It is probable that in the blood formicaldehyde enters into combination with albuminous bodies, and that a portion is oxidized into formic acid. That it is eliminated by the kidneys is well known, and Jacobson has found that 27.6 per cent could be recovered free in the urine, and 3.4 per cent in combination, probably with ammonia. When one recalls the powerful disinfectant action of the drug, the application of this fact in the treatment of cystitis and other conditions associated with alkalinity of the urine, is apparent.

Investigations were carried out by Dr. F. R. Blaxall and myself with the view of determining the action of formicaldehyde on the growth of tubercle bacilli, and its value clinically in the treatment of phthisis. The experiments, which lasted over a period of some months, were part of a series, having for their object the investigation of the action of certain essential oils and other volatile substances on the growth of tubercle bacilli. Incidentally, it may be remarked that both oil of cinnamon and oil of peppermint had no retarding action, and were useless; formicaldehyde, on the other hand, proved satisfactory. The apparatus used for the experiments were arranged as follows:

A flask A, containing a one in one thousand solution of perchloride of mercury, was fitted like a wash-bottle—that is, with two pieces of glass tubing bent at right angles. The lower limb, the lower part of which was immersed in the fluid, communicated with the outside air. The shorter limb connected the flask with flask B, containing sterilized distilled water, fitted in the same way, and connected by its shorter limb with a small gas washing bottle C, which held the fluid to be experimented with. This gas-bottle again communicated with an empty sterilized glass bottle D, and this again with a large sterilized glass jar E, covered with an air-tight disc perforated with two holes, through which the ingress (opening at the bottom) and egress (opening at the top of the jar) tubes passed. One egress tube passed thence to a wash-bottle containing sterilized distilled water F, similar to B, and then to a wash basin containing a solution of one in one thousand perchloride of mercury G. The whole of this apparatus was contained in an incubator kept at 37° C. constantly. The egress tube from flask G was connected through a perforator in the incubator with a water-pump. The water-pump being set in motion, air would enter flask A, and be freed of its organisms in passing through the mercury solution, thence pass to flask B, where any possible splashings of the mercury solution would be taken up, and thence to the gas-bottle C. Here the air would become impregnated with the volatile oil or chemical experimented with, and, passing on to the empty flask D, would leave there its superfluous moisture and enter the jar E. The current of air would then pass through the wash-bottles F and G, and thence to the water-pump. The two flasks, F and G, were intended to act as a check to the outgoing of the volatile oil in the impregnated air, and also to prevent any return current of air from the water-pump. Any leakage in the apparatus could at once be seen by the cessation of bubbling in one or more of the flasks.

The apparatus was used in this way: A dozen sterilized tubes, each of blood serum six per cent, glycerine agar agar, and six per cent, glycerine beef broth, were inoculated carefully from a recently-isolated culture on glycerine agar agar of the B tuberculosis. Two tubes each of these culture media thus inocu-

lated were at once sealed with paraffin to serve as controls, and these tubes, with eight other tubes of each culture medium, were placed in the sterilized jar E. The remaining two tubes of each medium were capped with india-rubber caps and placed in a distant incubator, to serve as further controls. The aspirating apparatus was then started, the air bubbling through the liquid in the flasks, and through the experimental fluid in the gas-bottle D, so that through the jar E circulated a current of air permeated with the vapor of the experimental fluid. The jar E at this time contained eight tubes of each medium inoculated with a pure culture of tubercle bacillus, plugged only with their sterilized cotton-wool plugs, and two tubes of each medium similarly inoculated, but hermetically sealed with paraffin. After twenty-four hours the jar was disconnected, and under a sterilized cover the cotton-wool plugs from the eight tubes of each culture medium were expeditiously removed. The lid of the jar was then carefully resealed, the apparatus connected, and the aspiration restarted, so that now the eight tubes of each medium inoculated with tubercle bacilli were fully exposed to the influence of the experimental fluid. Forty-eight hours from this time the aspiration was stopped, the jar disconnected, and one tube of each culture medium carefully withdrawn under cover, plugged with sterilized cotton-wool, capped and placed in the distant incubator to await growth. The apparatus was then reconnected and the aspiration restarted, and after another forty-eight hours, or ninety-six hours from the start, two tubes of each medium were withdrawn under the same conditions and placed in the distant incubator, and with them those controls that had been hermetically sealed in the jar.

The experiments with formicaldehyde were made with a six per cent solution in sterilized distilled water, an ounce of the solution being placed in the gas-bottle, so that the air bubbled freely through it. The results arrived at were as follows:

(*a*) No contaminations occurred in any of the tubes.

(*b*) All the controls grew well except in the agar-agar tube sealed with paraffin in the jar; in this case the plug had been forced out and loosened, and no growth occurred.

(*c*) None of the tubes kept under the influence of formaldehyde vapor for forty hours, for ninety-six hours, or for ten days, showed any growth whatever.

(*d*) Sub-cultures were made from several tubes of the solid media, and from all the tubes of fluid media; all of these failed, with the exception of one glycerine beef-broth tube exposed for forty-eight hours, which, re-inoculated onto blood serum, commenced, after three weeks, to grow feebly. This growth, however, did not progress, and sub-cultures made six weeks afterwards entirely failed.

To obviate the possibility of error after re-sterilization of the apparatus, another experiment was made which, with certain modifications, was a repetition of the previous one. In this instance, no contamination occurred in the tubes. An alteration was made in this experiment. Tubes were removed from the jar after two days' exposure to the formaldehyzed air, after four days, after six days, and after ten days. None of these tubes showed any growth up to six weeks from the date of inoculation, but after that date two tubes of six per cent glycerine agar, exposed for forty-eight hours, commenced to grow; one developed a very meagre growth, the other a fairly vigorous growth, and both were sub-cultured with success. None of the other tubes showed any sign of development, and sub-cultures from them all failed with the exception of a six per cent glycerine beef-broth tube, which, after exposure for forty-eight hours, was carried on successfully.

It will be seen that even a six per cent solution of formicaldehyde exerts a marked retarding and inhibitive influence on the growth of tubercle bacilli inoculated onto favorable culture media, and that this influence prolonged over forty-eight hours prevents the growth and future development of the bacilli.

No attempt was made to estimate the amount of the volatile vapor in any given quantity of the circulating air at any given time. In the formicaldehyde experiments, the irritating odor of formicaldehyde was most marked in the earlier stages of the aspiration, and diminished as the experiment neared conclusion. The possibility that the formal-

dehyzed air might condense on the under surface of the disc of the jar, and fall into the open test-tubes, was obviated by inverting some of the tubes.

Clinical observations have been carried on intermittently over a period of ten years, most of them in hospital practice. Twenty cases were observed with great care, and for a long period, and a larger number occurring in the ordinary routine of work have been less carefully recorded. The forty per cent aqueous solution was employed, and it was found that patients could inhale a 2.5 solution without inconvenience. No apparatus was employed, but the drug was simply inhaled continuously from a piece of lint. No set formula was used, and the composition of the solution was varied from time to time to suit the exigencies of the case. Glycerine was added to prevent too rapid evaporation, and it was found that oil of cinnamon rendered the vapor less irritating.

The treatment was employed both in men and women, and both in early and advanced cases of tuberculosis phthisis. Bacteriological examinations of the expectorations were carried out systematically, for without their aid little or no progress can be made. I give no statistics, for I attach little importance to them in a complicated investigation of this kind, but the results were satisfactory; better, I think, than can be obtained by any other method of treatment.

It is not my intention to give details of cases, but I will mention one of many years' duration:

A man, aged forty-six, consulted me in November, 1896. His family history was bad, several members of his family having died of phthisis and one brother of genito-urinary tuberculosis. He had had a cough, with expectoration, for some months, was rapidly losing flesh, and had profuse night sweats. His evening temperature ranged from 100.5° to 102° F. At the left apex in front was bronchial breathing, with moist râles. The breathing over this region subsequently became cavernous. Specimens of the expectoration were submitted to Dr. Blaxall, who reported: "Both specimens contain tubercle bacilli. The bacilli are very slender and in clumps, and are fairly numerous. I should consider it to be an early case rather fiercely attacked, and should imagine that the prognosis was unfavorable." The patient was placed on the formicaldehyde treatment, and had an inhalation almost continuously until the end of February. The expectoration was examined twice a week, but the bacilli, although fewer in number, were always present. The patient's condition speedily improved, the night sweating ceased, he gained in weight, and in March, 1897, was free from cough and expectoration. A corresponding improvement took place in the physical signs of the chest. In February, 1899, another examination of the sputum showed numerous tubercle bacilli, both isolated and in clumps, with streptococci in fair amount, and a few staphylococci. The mixed infection was regarded as a favorable sign, indicating that the tubercle bacilli were being ousted. Three months later the report stated that the tubercle bacilli were all in clumps, that there were no isolated bacilli, and that they stained badly, and were smaller than usual. This showed that the patient was improving under treatment. During the whole of this time he lived in England, and was able to follow an active life. A couple of years later he retired from business, and since then has wintered abroad. He has now passed out of my hands, but he is still alive, and continues to enjoy his ill-health. The result, considering the acute onset, and the fact that the patient was but little inclined to take care of himself, may be regarded as more than satisfactory. This case is put forward, not as one of cure, but as one in which the patient, although hampered by phthisis and other conditions not conducive to the maintenance of robust health, was for some years enabled to follow his occupation, and, in due course, retire into private life.

I could give details of other cases in which the formicaldehyde treatment has proved of value. Some are of many years' duration, but it must be remembered that when observations are spread over a long period the patient invariably resorts, from time to time, to other modes of treatment, so that disturbing factors are introduced, some favorable and others prejudicial. It is apt to be forgotten that, however successful a mode of treatment may be, the interval of a decade

in the life of a middle-aged man means much, and that at the end of that period he is not so robust, physically or mentally, as at its commencement.

I have found the vapor of formicaldehyde useful in the treatment of bronchiectasis, and in a case of this description, due to the aspiration of the fang of a tooth in a dental operation, the patient was kept for many days in a small ward impregnated with this substance, with manifest advantage.

Formicaldehyde, from its pungent odor and taste, is by no means an easy substance to prescribe in a palatable form, and as some difference of opinion exists as to its medicinal dose I made some observations on this point. To a man suffering from genito-urinary tuberculosis I gave two and a half minims of the forty per cent solution flavored with spirit of chloroform and an emulsion of oil of cinnamon. This was administered in a wineglass of water and produced no inconvenience. The dose, after two days, was increased to five, then to seven and a half, and finally to ten minims. The last dose produced a certain amount of local irritation in the esophagus, and was followed by the frequent passage of flatus. When the dose was increased to twelve and a half minims the patient suffered from nausea and vomiting, and the administration of the drug was stopped. The same patient was given an injection into the bladder of a one-fourth per cent dilution of the forty per cent solution mixed with a one-fourth per cent solution of cocaine. The quantity introduced was four ounces, warmed to the temperature of the body. It gave rise to a considerable amount of pain and discomfort, which was speedily relieved by copious irrigation with boracic acid. Subsequently the injection was decreased to one-eighth per cent of the forty per cent solution with the addition of a larger proportion of cocaine, but this, too, gave rise to pain. The attempt to relieve the patient of his sufferings was justifiable, for he had been treated previously without benefit, with tuberculin, guided by systematic observations on his opsonic index.

A woman, age twenty-eight, who had been operated on for empyema, was given a single dose of ten minims of the forty per cent solution immediately after a meal. There was no nausea, but in three minutes the contents of the stomach were evacuated. Another woman, suffering from bronchiectasis, was given five minim doses three times a day. After the first dose she complained of nausea, which increased with each subsequent dose. There was no vomiting, but after the sixth dose administration of the drug was stopped.

From these observations, it may be concluded that the maximum medicinal dose of the forty per cent solution is about ten minims.

Formicaldehyde is usually said to be destitute of toxic action and it is certainly not an active poison. A man who took one-half ounce of the forty per cent solution recovered; in addition to the signs of local irritation, the lips and extremities were cyanosed, no urine was passed for twenty-four hours, and the specimen first voided contained albumin, but neither blood nor sugar. In the case of a man who swallowed a teaspoonful of the forty per cent solution, the symptoms were less severe, but he was collapsed, and no urine was passed for nineteen hours, that subsequently voided contained formic acid for two days, but neither albumin nor sugar. In another case, in which a man took a teaspoonful of the forty per cent solution, the symptoms were relieved by the administration of liquor ammoniæ acetatis. The only recorded fatal case is that of a man who took from two to three ounces of a four per cent solution, death ensuing in thirty-four hours. This would give the fatal minimum dose at somewhere between 0.66 and 2.4 drachms.

It will be well to compare this with the amount of formicaldehyde contained in the dietary of a patient fed on formalized milk. In typhoid and other acute specific diseases the usual allowance is three pints in the twenty-four hours, that is, four hundred and eighty drachms or twenty-eight thousand minims. Taking the proportion of formicaldehyde at its highest, one in twenty-five thousand, this gives only about 1.1 minims, which is far removed from the range of toxic action. Even if the patient took ten pints

ot milk a day there would still be no danger.

Formicaldehyde is easily converted into a polymeric solid modification, and combines readily with starch, dextrin, sugar, menthol and all terpenes. Paraform or trioxymethylene is a colorless crystalline powder, which when heated readily gives off formicaldehyde. A preparation known as formamint is favorably spoken of by Zwillinger, Rosenberg, and others. It is a white crystalline powder, and is a combination of formicaldehyde with menthol and lactose, a gramme containing 0.01 grammes of formicaldehyde. It is useful in pyorrhea alveolaris and is a valuable remedy for flatulence, whether due to atonic dyspepsia or dilatation of the stomach, the result of pyloric obstruction. I have given it in many cases of this description and the results have been very satisfactory. It has been used with benefit in tonsillitis and the sore throat of scarlet fever and diphtheria.

Formicaldehyde has a wide range of usefulness and is a valuable addition to our list of remedial agents.

[Written for the MEDICAL BRIEF.]

Opsonins and the Opsonic Index.

BY JOSEPH HUME, M. A., M. D., D. P. H.,
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Much has been written of late about the "Opsonic Index," but it is a subject concerning which even those engaged in active clinical work know but little. Whether the pathologists and bacteriologists, and those who spend their lives in laboratory work, know much more is, perhaps, open to question. The newspapers, both lay and medical, are permeated with articles headed "Fighting Consumption," "A New Treatment," "Hopeful Result," and so on, but that does not go far to elucidate the question. In the first place it may be said that there is no new treatment. No fresh drug or medicament, whether in the form of mixture or pill or inhalation, has been introduced. It is, after all, only our old friend Tuberculin all over again. Some people thought it was dead and decently interred years and years ago, but it comes up smiling once more, and with quite a new facial aspect. We are told that "if the hopes of those best qualified to judge be realized, then nothing of greater moment has been achieved since Lord Lister's epoch-making aseptic surgery was made known." This is true, but it is equally true that if all our shares go up, and we sell at the right moment, we shall make a handsome profit. The point is, will our hopes be realized?

What is it we mean by the term: "Opsonic Index?" and what are opsonins?

We all know that many diseases are conveyed through the medium of the blood which, roughly speaking, consists of plasmon with red and white corpuscles. The red corpuscles are oxygen-carriers, and take an active part in all metabolic changes. The function of the white corpuscles, or leucocytes, was formerly a mystery; but within the last forty years they have been peculiarly honored as the defenders of the blood against disease germs. It came to be generally believed that they attacked and devoured intrusive, hurtful germs that found their way into the circulation. For this belief there was good reason, for in microscopic examinations the white corpuscles were found with the bacilli inside them. They engulfed the bacteria, as the ameba does its food, and, having absorbed them, they carried the microbes to the liver and the spleen, there to be gotten rid of. This theory with regard to the functions of the white corpuscles seemed to be very complete, but it is now maintained that it has been upset, and is erroneous. It is said to have been demonstrated that there is something in the serum of the blood, called opsonins, that does battle with the bacilli, and that the white corpuscles are merely scavengers which carry off the bacilli after they have been worsted by the opsonins. Hence the conclusion that in fighting disease—consumption, for instance—we must not aim to increase the number of the leucocytes, but to strengthen the opsonins.

The "Opsonic Index" shows by figures the resisting power of an individual as against bacilli. Suppose, for example, that in a healthy subject each white corpuscle is found to englobe eight bacilli; in another patient, who is consumptive, the number entrapped falls to four, and in a third to two; their opsonic indices would

be, respectively—eight being the normal—I, .5, and 0.25. It is urged and maintained that in proportion to the power of resisting disease is the chance of recovery. The colorless corpuscles ought to eat up or appropriate the bacilli, but they are not always hungry, and they are sometimes satiated. Wright's plan is to tempt their appetite, but giving them a vaccine which they injected into the patient's blood causes the pouring out into it of a substance which enters into chemical combination with the bacilli, rendering them not only digestible but appetizing. The material produced as the result of this mode of stimulation is called "opsonin," from the Latin word *opsono* (I cook for the table).

The vaccine is prepared by grinding tubercle bacilli to a fine powder and suspending it in dilute glycerine. The mixture is then sterilized by heat. The object is "to bring about the destruction of the tubercle bacilli in the local nidus of infection by leading through that nidus in a continuous stream a lymph rich in protective substances." The idea of passing a stream of blood which is rich in protective substances through the infected area is distinctly good.

This, perhaps is, at first sight, not very clear, but later I will endeavor to be more explicit. In the meanwhile let us consider who are the exponents of this new theory. First and foremost comes Dr. A. E. Wright, formerly Professor of Pathology at Netley, now of St. Mary's Hospital, London. He has recently been made a knight, so is entitled to the prefix of "Sir" to his name. He is favorably known in connection with the subject of Anti-typhoid Inoculation, and has had much success with the treatment of furunculosis with a staphylococcus vaccine. Dr. W. Bullock, the bacteriologist to the London Hospital; Dr. David Lawson, Dr. Ian Struthers Stewart and Dr. John Pardoe, and some others, have also worked at opsonins.

Wright's most important communication on the subject was made to the Royal Medical and Chirurgical Society of London on December 12, 1905. It must be admitted that although a fluent speaker, he is somewhat difficult to follow, and that he has not the art of making his meaning clear to a non-technical audience. Fortunately, however, he supplied his hearers with an abstract of his speech, a portion of which is here reproduced:

"Exposition of the events which occur in the blood after the inoculation of a bacterial vaccine—negative phase, positive phase return to a condition of equilibrium.

"Possibility of increasing the protective substances with respect to any micro-organism, beyond all comparison the most valuable asset in medicine.

"Exposition of effects which may be obtained by following up one inoculation by another.

"Achievement of a cumulative effect in the direction of the positive or, as the case may be, in the direction of the negative phase where the inoculations are superposed in the one case on the positive phase, and in the other case upon the negative phase of the previous inoculation. Exceptions to this rule.

"Achievement of a more marked response from the later inoculations in the case where the blood has been allowed to return to the position of equilibrium after each successive inoculation.

"Events which are seen after artificial inoculation of bacterial vaccines manifest themselves also in the course of spontaneous bacterial infection.

"Auto-inoculations here produce exactly the same effects as artificial inoculations.

"Classification of bacterial infections into two categories: (a) into a class of bacterial infections in connection with which the machinery of immunization is not called into play, and (b) into a class of bacterial infections where this machinery is called into play.

"These two categories of infections correspond respectively to strictly localised and systemic infections.

"In the first of these categories of cases the protective powers of the blood are uniformly lower than is the case in normal individuals.

"In the latter category of cases the protective powers of the blood are continually fluctuating—being at one time higher and at another lower than the normal.

"These two classes of bacterial infections must be treated on entirely different principles."

In the treatment of strictly localized bacterial infections Wright is somewhat more explicit, and he indicates fairly clearly the mode of treatment to be employed. He says:

"Hot fomentations, hot sandbags, Bier's method of obstructing the circulation, the various forms of light treatment, the employment of radium, the administration of citric acid, and the injection of tuberculin in tubercular cases are all means to this end."

Incidentally it may be remarked for those not acquainted with Bier's method that for some years Professor Bier has advocated a somewhat revolutionary method of treating active inflammation by inducing passive congestion. In opposition to the old antiphologistic theory, he regards inflammation as a curative process which should be encouraged and utilized. For example, in a case of acute whitlow he binds a rubber bandage round the arm. In this way he manages to transfer an acute into a chronic abscess. Pain is relieved probably by the edema producing an anesthetic action on the termination of the sensory nerves. These views have not met with acceptance, especially at the hands of Dr. C. W. Cathcart, of Edinburgh, and other Scotch surgeons.

Respecting the treatment of bacterial infection in the case where the machinery of immunization is already being called into action by the entrance of bacterial elements into the blood, we are told that the following principles must be kept in view:

(1) Where the conditions of the blood circulation in the nidus of infection can be so modified as to arrest the lymph-stream, and so to prevent the conveyance into the blood of bacterial elements derived from the nidus of infection, the auto-inoculations will be arrested, and the conditions will, in process of time, become identical with those which obtained in connection with purely localized infections. When, in this manner control of the machinery of immunization has been regained, the localized infection will have become amenable to treatment by the methods prescribed in connection with strictly localized bacterial infections.

(2) Even where the auto-inoculations can not be completely arrested, inoculation with a bacterial vaccine can still be resorted to if we can satisfy ourselves that the clinical condition of the patient is not such as to prohibit even a slight and transient aggravation of his symptoms, and if, further, we can satisfy ourselves that his machinery of immunization is capable of responding to further stimulation, and if, lastly, his resisting power is such as to furnish a sufficient margin of safety, and to justify such temporary reductions as would supervene on the inoculation of a vaccine.

Bullock, in his paper on the Treatment of Tuberculosis by Tuberculin, is equally cryptic in his utterances, but Lawson, Stewart and others are much more explicit, and express their belief in the form of a catechism so that those who run may read. The medical student may possibly object to the following scheme of question and answer, but he must remember that the "Opsonic Index" was not invented for his amusement.

Question 1.—Is there any difference between the opsonic indices of the blood of healthy persons, persons who are suffering from pulmonary tuberculosis, persons who have suffered from pulmonary tuberculosis and are now cured?

Answer.—Tables shown in which the opsonic indices of the bloods of fifty healthy persons and twenty-five of each of the remaining two classes are compared, demonstrating that such difference does exist.

Question 2.—Can this fact be turned to practical use in dealing with the disease?

Answer.—It is shown to possess a value particularly in relation to diagnosis.

Question 3.—Is there any difference in the behavior of the opsonic indices in these three classes of cases after injection of tuberculin (T. R.)?

Answer.—Tables of comparative cases showing such difference to exist.

Question 4.—Can this fact be utilized in relation to diagnosis and treatment?

Answer.—It is shown to be of material value in both, but especially in treatment.

Question 5.—Can the negative phase which follows tuberculin inoculations be recognized by any less laborious method than by regularly ascertaining the opsonic index?

Answer.—In one hundred and sixty instances the alterations in temperature,

pulse and respiration are shown alongside of the disturbance in the level of opsonic index, but so far no such method has been discovered.

It may be asked what is the attitude of the medical profession in England and Scotland towards this question. I am neither a Professor of Bacteriology nor a Physician to a London Hospital, and I hold no brief authorizing me to speak on behalf of my colleagues, but I have made inquiries, not, it is true, of the man in the street, but of people of a practical turn of mind who endeavor honestly to carry on their calling as physicians and surgeons, and I think I may safely say that their frame of mind is that of expectation, coupled with chastened skepticism. They say in effect that for all practical purposes the mode of investigation is too cumbersome, and that practically it will not work. Pathologists, at all events those outside the sphere of Wright's immediate influence, find, after many trials, and as the result of much vexation of spirit, that there are many fallacies in the technique and that it is not reliable. They point to the length of time required for each observation, some say two hours, some even longer, and that it is not a workable scheme. At some hospitals opsonologists have been appointed at a salary, but after some months' experience and anxious expectation, they seem by no means assured of the fixity of tenure of their offices.

But I am not compelled to rely on vague generalizations, for, fortunately, I am able to shelter myself under the authority and experience of so well-known a teacher and observer as Mr. Edmund Owen, himself a St. Mary's man, and now consulting surgeon to the very hospital within whose portals these observations had their origin and being. He seems to be under the impression that a good deal of water will have to flow under the bridges before this new method of treatment will be established on a firm therapeutical basis. In his Bolingbroke lecture, delivered on June 13th of this year, he says:

"Just now I made reference to Wright's injection treatment of tuberculosis, and as it is a method of which one is constantly hearing, and of which one is probably going to hear a good deal more, I thought that I might speak somewhat fully about it in this article. I make no apology for doing so, because, in these days of pressure and hurry, everybody can not have the opportunity of getting a clear understanding of the scheme.

"I will say, in the first place, that the professor's writings are by no means easy reading, and that if anyone is under the impression that he will master them after dinner with his pipe, he will be likely to find it difficult to keep his interest and his pipe alight at the same time. To me as a hopeful, but, perhaps, somewhat unintelligent looker-on, it appeals rather by the enthusiasm with which it is set forth than by its direct curative results. I feel sure that the possession of a certain amount of disinclination to accept a new doctrine merely because it is introduced by an illustrious professor, is not unreasonable. And I think that the Fathers of the Church who composed the collect for December 21st, paid Saint Thomas a well-merited compliment when they say that his doubting worked 'for the greater confirmation of the faith.' As Tennyson puts it:

> "There lives more faith in honest doubt,
> Believe me, than in half the creeds."

"I do not think that it would be good for our patients—nor for Professor Wright himself—if, when he sets forth his 'roof-tree' curves, his assumptions and his conclusions, each one of us simply says, 'Credo.' And I think that a great deal of water will have to flow beneath the neighboring bridge of Battersea before this method is established upon a firm therapeutic basis. In any case, it will need to be much simplified before anyone but a skilled pathologist can carry it out with safety.

"Unfortunately, tuberculous patients are scattered over the whole country from John O'Groat's to Land's End, and if this treatment is going to prove the splendid success which some expect, and all desire, it will become an important question as to how poor sufferers in outlying districts can receive its benefits."

It is worthy of note that Koch, in his noble lecture, delivered at Stockholm on December 12, 1905, a lecture entitled "How the Fight Against Tuberculosis Now Stands," seems to rely chiefly on the necessity for placing tuberculous patients

in suitable establishments, and on bettering unfavorable domiciliary conditions.

Wright and his co-workers may have made an epoch-marking discovery, but the enormous mortality from phthisis still continues, and shows no signs of abatement, and much water still runs under the bridges, both in St. Louis and in London.

It is but fair to mention that Dr. Ross, of the Victoria Park Hospital for Diseases of the Chest, thinks that opsonic methods afford a mode of diagnosis between acute phthisis ulcerative endocarditis and enteric fever. Dr. Grace-Calvert, who is an advocate of sanatorium methods, says:

"The whole subject is one of great practical importance, and it seems to me that Wright has placed in our hands a most valuable adjunct, not only to sanatorium treatment, but also to the existing therapy of many other diseases; and, though I do not by any means think that we have a panacea for all tuberculous diseases, I am convinced that sanatorium treatment, alone or combined with inoculations of tuberculin, does at present give the best chance to a sufferer from tuberculosis."

Here the matter must rest for the present. I have done my best to give a fair and unbiased view of a very difficult subject concerning which there is much diversity of opinion. Time and opportunity must be trusted to solve the intricate problem.

[Written for the MEDICAL BRIEF.]

Pathology of Tumors.

BY JAMES B. PRICHARD, M. D.,

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Pathological investigation regarding the development and growth of tumors shows a tendency to change former views concerning them. The former theory of neoplasms—that of Conheim—which, however, was really developed before his time, or about the same time as Durant's theory, now sometimes spoken of as the Durant-Conheim theory, was based upon the apparent findings in the study of certain classes of tumors, in which they found that an excess of embryonic tissue existed. That is to say, embryonic tissue in excess of its requirement for the formation of a special tissue or part of an organ, and that when such organ or tissue was complete, the remaining or excess portion was simply inclosed or included in the surrounding normal tissue of the organ, and remained there in a quiet state until in after years some irritation or injury started an abnormal growth from such cell "rests," as they are called, according to the above mentioned theory.

Such an example may be found in the ordinary pigmentary moles of the skin, which, in themselves, are apparently entirely harmless, but which, when irritated or injured, may cause cell proliferation and develop a new growth, and certain forms of sarcoma have positively been traced to this source. I recall one case in my own practice: A patient had a mole on his right shoulder near the scapula, and, for no particular reason, he concluded to have the mole removed. He consulted a dermatologist with that end in view, and was treated by electrolysis, which did not remove the mole but irritated it very greatly. He suffered much pain for quite a while, but after a week the pain disappeared. The mole, however, was still irritable, even after the pain had ceased. He next consulted a surgeon, and requested that the mole be removed; this was done by excision. The wound healed fairly well but left an irritable scar which continued to be painful. In a very short time he noticed the development of a small tumor on the top of the right shoulder, and within the next three weeks three more tumors had appeared. In one month the first tumor had reached a size of one inch in diameter, when it was removed by incision for pathological investigation. Examination under microscope showed it to be a melanotic sarcoma.

In considering this case there seemed to be absolutely no other cause for the development of this sarcomatous condition except the irritation of that mole, which probably caused the embryonic cells to become active and disseminate into the tissues, starting sarcomatous processes elsewhere.

In this case the tumors became multiple and very rapidly extended and involved various portions of the body. Some of

them grew to be of very great size, and the result was, of course, a fatal termination in about eight months.

Then there is the theory of "injury" in the etiology of tumors, yet if we look closely into that subject we must admit that the number of injuries which the body receives is greatly in excess of the number of tumors. At the same time injuries are sometimes responsible for the starting of a process which may develop into a tumor. Many predisposing factors have a bearing on their formation, and among them heredity. We would not consider heredity an etiological factor except as it is considered in many other pathological conditions. That is to say, an individual may, and undoubtedly does, inherit a certain tendency to disease by reason of lack of vitality. Certain tissues or certain organs, or even the whole organism of a given individual may inherit a general or special lack of vital force, which condition, of course, may, through very slight causes, so divert the natural processes of life from the regular course as to result in abnormal conditions of disease or the development of growths.

The rule of Virchow (who was the father of cellular pathology), still holds good, viz., that all new growths or neoplasms must spring from pre-existing cells.

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[Written for the MEDICAL BRIEF.]

A Complicated Case—Medical and Surgical—With Recovery.

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On November 17th I was called to see a patient whose condition had previously been diagnosed as acute appendicitis. The patient was about thirty-six years old, had never been seriously ill in his life, but during the past eight years had had several attacks of pain in the region of the stomach. These paroxysms of pain lasted but a short time, and were usually attributed to faulty digestion. During the five days before he came under my observation he had not been feeling well, but was able to continue his work. The violence of the present symptoms began about six hours before I saw him. His temperature was 105° F., pulse ninety-six; there had been nausea which had ceased, but the pain in the stomach remained. The abdominal muscles were very rigid; abdominal tenderness while general, was much accentuated by pressure over region of the appendix. This tenderness had followed the lancinating pains which had been the first symptoms of the attack. No induration could be discovered, and percussion revealed no dullness.

Our diagnosis was appendicitis with perforation. An immediate operation was advised, and performed about ten P. M. at the Deaconess Hospital. Operation revealed a perforation close to its proximal extremity. There were no adhesions, but the peritoneal cavity contained gas and about one pint of milky fluid lying in the pelvis. This fluid had a very foul odor. The peritoneal membrane was not blistered but everywhere lustrous, consequently after the cavity was thoroughly cleansed by sponging and irrigation, the wound was closed without drainage. The temperature, which at the time of operation was 104° F., was normal on the following morning. On the evening of the same day it was 100.5° F. Next morning it was 99° F. but by evening it was 101° F. So the temperature continued each day above normal, ranging from 99° to 103° F. The pulse varied from sixty-four to eighty-eight beats per minute more or less, corresponding to the temperature in variation. The bowels moved spontaneously on the second day, and on each day succeeding. On the fourth day the dressings were removed, and as there was a little swelling in the wound, a couple of stitches were cut and possibly two drachms of dark serous fluid liberated from the perineal region and drainage left. This had no effect upon the febrile condition. Next day the abdominal cavity was again invaded in the hopes that the source of the infection might be found about the stump of the meso-appendix, but a diligent search here and among the coils of intestine in the neighborhood failed to show anything normal. The subcutaneous layers of the abdomen were again sutured

and the skin united with adhesive strips. Little or no discomfort was experienced by the patient during this investigation. Quinine had been given but with no result. On the supposition that streptococci might have been taken into the general circulation through the open spaces in the dome of the abdomen at the time when intestinal contents were present in the abdominal cavity, twenty cubic centimeters antistreptococcic serum were administered. This was the evening of the fifth day, and the same sized dose was repeated next morning. No change could be recorded on account of the serum. The following night a severe hemorrhage from the bowels took place, which was followed by two more on the seventh day and one on the eighth. A specimen of blood was taken on the day of the first hemorrhage and submitted to Dr. Dodds, who observed a very pronounced reaction to "Widal's test." The abdominal wound healed promptly, and the case continued as an ordinary case of typhoid fever, and was treated as such. The temperature never rose above 104° F., and returned to normal during the fourth week.

Two days after convalescence had been established severe pains were felt in the left thigh and leg. From Scarpa's region to the os calcis pains chased up and down. The entire limb became swollen and discolored, but by elevation and the constant application of moist heat we were again favored by seeing this complication disappear at the end of ten days.

At the end of eight weeks the patient left the hospital a well man. During this time he withstood the attacks of appendicitis with perforation, typhoid, hemorrhage and phlebitis, and I believe is entitled to a place in medical lore. This was a case of intestinal perforation during an attack of typhoid, but not a typhoid perforation as usually anticipated, nor can it be said to be coincidental, but it is just as serious and demands as prompt recognition and care. The typhoid infection must have been the added straw which broke the back of the appendix and made it leak.

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[Written for the MEDICAL BRIEF.]

Acute Suppurative Inflammation of the Middle Ear.

BY WILLIAM C. BANE, M. D.,

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Acute suppurative inflammation of the middle ear may be described as an inflammation of the middle ear in which the exudate assumes a purulent character at an early stage of the disease. In some cases this occurs as early as the first twenty-four hours, but usually not before the second or third day. The mucous membrane of the tympanic cavity becomes infiltrated with serum and pus which causes swelling; this in turn is followed by exudate into the cavity, exerting pressure and causing a bulging of the membrana tympani. The lining membrane of the middle ear assumes a congested granular appearance.

The exudate contains epithelial cells, pus corpuscles and pathogenic micro-organisms. The membrana tympani appears engorged and from the exudate in the middle ear there is more or less bulging. The glistening surface changes to a dull dark red color. Blebs may appear on the surface. As the process goes on the epidermal layer becomes infiltrated and the outline of the malleus, except the short process, becomes obliterated. The canal is invaded by the inflammatory process and blebs form on it near the membrana tympani. The inflammatory process usually extends to the antrum and not infrequently involves the pneumatic cells. When the disease is not checked in the formative stage the membrana tympani macerates and breaks down at point of greatest pressure, which is usually in the vibrating portion. The pressure may be greatest in the flaccid portion, causing it to hang down over the vibrating section. Generally, the inflammation is confined to one ear, but both may be involved at or about the same time. Especially is it likely to involve both ears in the exanthemata.

Symptoms.—Pain is usually severe from the first and continues in the ear and surrounding parts that have been invaded, and frequently radiates throughout the

side of the head. Vertigo and tinnitus are often present, due to pressure of the exudate. A throbbing sensation, sometimes very violent, is invariably present. There will be elevation of temperature, loss of appetite, and sleeplessness.

Pressure on the tragus and tip of mastoid increases the pain. Hearing, after the exudate has formed, is very much impaired. Perforation of the membrana tympani may occur within a few hours from the onset of the inflammation, or not for three or four days, or even a week. After perforation has occurred, and a discharge established, the pain is very much diminished, though not to the degree observed in perforating catarrhal disease. The earlier that perforation occurs and free drainage is established the greater the relief. After perforation has occurred and pus has accumulated in the canal it may be observed to move with each pulsation of the vessels of the middle ear and membrane. Upon cleansing to expose the perforation the reflex from the bead of fluid that comes through the perforation will enable one to locate the seat of rupture.

Again, gentle inflation will force the exudate through the perforation and thus aid the examiner to locate it. Upon cleansing the canal and membrana tympani the latter will be found dull and reddened from the inflammatory changes.

The perforation may be small, and again it may include most of the vibrating portion, there being but a rim of membrane left. The shape varies; it may be circular, oval, kidney or heart-shaped.

Unless the mastoid is involved the purulent discharge will diminish in the second week and by the end of the third week will cease. However, there are exceptions to the rule, and they are in the so-called strumous individuals that furnish good soil for the micro-organisms. Again, in the cases where the acute purulent otitis media is a complication of scarlet fever, the course may be prolonged from the weakened state of the system and the greater amount of destruction to different parts in the middle ear. Should the perforation be small and the trophic nerves to the membrana tympani not be destroyed, healing is quite certain to take place and little or no trace of perforation be left. On the other hand, where the destruction has been great, with loss of a large portion of the membrana tympani, the prognosis is not very favorable, as permanent damage to the organ of hearing is sure to ensue. Again, the lining of the middle ear may be so damaged that granulations will form on the denuded surface and the discharge give out a fetid odor indicative of the presence of necrotic tissue.

As the worst forms of acute purulent otitis media occur in the exanthemata, *i. e.*, scarlet fever, measles, and in influenza, it is very important that these cases receive early and careful attention. Unfortunately, not all cases of acute suppurative inflammation of the middle ear receive proper attention, and as a result a goodly number lapse into a chronic condition. The fault is most commonly with parents who neglect to have proper treatment carried out.

Treatment.—In severe cases put patient to bed or have him keep quiet. Put him on light diet of easily digested food. Evacuate the contents of the bowels with broken doses of calomel, followed by a saline. Quiet the circulation with aconite. It may be well to administer sod. salicyl. in ten to fifteen-grain doses to adults, every two to four hours, with plenty of water. A mixture of nitrate of potash and liquor ammonia acetatis in half doses every three or four hours will reduce the fever (about four grains of the nitrate with two drachms liquor ammonia acetatis).

Local blood letting by artificial leeching in front of tragus or over mastoid will greatly relieve the pain and aid in aborting an attack, if used early enough.

Irrigation with hot boric or salt solution every three or four hours, a quart at a time, the bag being a few inches above the level of the ear. Hot water bag to ear is very soothing to most cases. A few drops of a twelve per cent carbolized glycerine solution instilled in the ear will aid in stopping the pain. Meet the indications in the nose and throat according to the condition and stage, by using an antiseptic spray.

Examine membrana tympani carefully. If bulging and symptoms of tension are present then incise freely, preferably in

the posterior half close to the bony wall. Do not wait for rupture. Be prepared to incise. If not willing to do so, get some one that can do so. Follow incision with irrigation with hot sterile boric sol. one drachm to one pint. May anesthetize membrana tympani. A ten per cent cocaine solution acts as a local anesthetic with good effect in some cases. After discharge has commenced a five per cent solution of eucaine B. dropped in the ear three or four times daily will be soothing. May irrigate every two or three hours with boric acid solution, according to the height of the inflammation.

In cases due to influenza the watery solutions sometimes increases the pain, and patients do best with drainage by cotton or gauze. I do not favor the insufflation of drying powders where there is profuse discharge.

Gentle inflation to empty the middle ear of exudate is important, or a suction speculum may be used. Guard against secondary infection. Every article used should be sterile, if possible. Hands, speculum and cotton-holder should be properly cleansed. We too often handle the head mirror and then prepare cotton for mopping when the fingers are not clean.

In the late stages, as the discharge diminishes, we may instill some astringent, as a solution of silver nitrate or zinc sulphate. May precede the silver with cocaine. Drop solution into ear when turned upward, then press on tragus to force liquid into middle ear and perhaps Eustachian tube.

Not infrequently the perforation from incision closes too early, as evidenced by return of pain and retention symptoms. Then we re-incise at original point. As the discharge diminishes allow of more time between treatments. After discharge has ceased, and perforation closed, gentle massage may and may not be acceptable.

Where there has been great loss of the membrana tympani the course of treatment will be prolonged, yet the case should be followed up and the discharge stopped even though the perforation remains, in order to prevent the case becoming chronic.

Commonwealth Building, 15th and Stout Streets.

[Written for the MEDICAL BRIEF.]

Glaucoma.

BY FLAVEL B. TIFFANY, A. M., M. D.,

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Glaucoma is the name of a certain pathological lesion of the uveal tract, a condition which gives rise to numerous symptoms due to the increased intraocular tension. The word is of preophthalmoscopic origin and does not in any sense indicate the etiology, pathology and symptomatology of the disease, except the color of the pupil, viz., seagreen.

There are several stages of the disease: the prodromal or operative stage; the primary stage, the fully developed stage, and the degenerative stage. Glaucoma constitutes more than one per cent of all the diseases of the eye, hence the great importance of the general practitioner being able to recognize it and give timely advice if not treatment, that it may be checked before vision is irremediably lost. Glaucoma is a disease of the uveal tract involving especially the ciliary region. The power of accommodation as a rule is the starting point, but sooner or later Fontana's spaces, ligamentum opticum irides, the iris itself, the ciliary muscle, ciliary ligament with entire uveal tract, Schlemm's canal, becomes involved.

In order to appreciate the etiology, pathology and symptomatology, one must be fully familiar with the anatomy and physiology of this region of the eye ball. One knowing that Schlemm's canal is located at the sclero-corneal junction with the ligament of the iris, ciliary muscle, the root of the iris itself attached or anchored at the limbus, with many blood vessels, nerves and lymphatics coming and going out of this part of the eye, where the aqueous humor constantly escapes from the eye, can more fully appreciate the fact that any slight disturbance of this region might bring about a condition which would account for many of the symptoms called glaucoma. I say, one knowing of the many blood vessels and nerves coming to and leaving the eye

through the ciliary region and Schlemm's canal can readily see that a blocking of Fontana's spaces and Schlemm's canal would give rise to the retention of aqueous humor and hence increase the intra-ocular tension, on which hang most of the symptoms of glaucoma.

It is evident to every oculist that there is a constant and copious secretion from the uveal tract—aqueous humor. If after a paracentesis or iridectomy the aqueous humor is evacuated the cornea collapses and the intra-ocular tension is much reduced, but in a few minutes the fluid is replaced when the cornea assumes its normal curvature and the normal tension of the globe is re-established, showing this rapid secretion which is necessary to keep the parts in a healthy condition is going on at all times.

Glaucoma, as a rule, is a disease of middle or old age. It seldom appears until after the presbyopic period, and then it is usually in the hypermetropic eye or is induced by traumatism, I believe that the so-called glaucoma seen in youth or early life is of a mistaken diagnosis. Why? It is not a disease of youth. The myopic eye is usually immune from glaucoma and it is the hypermetropic eye that is subject to it. The hypermetropic eye, as a rule, is below normal size in all its dimensions with a crystalline lens disproportionately large. Its circular fibres predominate almost to the exclusion of its marginal fibres. The hypermetropic eye is constantly exercising its power of accommodation whether the person is looking at a near or distant object, which from strain may become hyperemic, congested and finally inflamed, and this swelling may act as a dam to Schlemm's canal and so cause increased intra-ocular tension, giving rise to the following symptoms:

1. Increased tension of the globe.
2. Rapid increase of any pre-existing presbyopia.
3. Venous hyperemia at the limbus.
4. Dilatation and sluggishness of the pupil.
5. Cloudiness of the aqueous and vitreous bodies.
6. Periodic dimness of vision.
7. Appearance of the halo of prismatic colors about a light, as a lamp.
8. Ciliary neuralgia of an agonizing character.
9. Contraction of the field of vision.
10. Anesthesia of the cornea.
11. Scotomata or blind spots.
12. Arterial pulsation at the disc.
13. Cupped disc with recession of the lamina cribrosa.

Referring to the first symptom, the patient complains of the fullness of the eyeball, as though the globe were too large. Upon examination we find that the tension is considerably increased, varying from a slight increase to a stony hardness. To what is this increase of intra-ocular tension due? In the physiologic eye we know there is a constant escape of the aqueous fluid probably through Schlemm's canal. In the glaucomatous eye, as can be demonstrated by macroscopy, we find the following conditions: Swelling of the ciliary processes, congestion of the ciliary muscle, adhesions of the iris to the cornea with obliteration of Fontana's spaces and Schlemm's canal. The iris adherent to the endothelial layer of the cornea, obliterating the angle as a result of which we have retention and accumulation of the fluid causing increase of the intra-ocular tension and upon this hang all the other symptoms.

Referring to the second symptom we find rapid increase of any existing presbyopia; patient finds it necessary to change his glasses very frequently for stronger glasses. What does this mean? It means that the ciliary muscle is becoming involved and is rapidly losing its power of accommodation.

Under the third symptom we find the venous hyperemia and note that the ciliary veins become engorged and tortuous, which is simply due to the intra-ocular tension impeding circulation.

4. Dilatation and sluggishness of the pupil: on examination we find that the pupil is more or less dilated according to the stage of the disease and does not respond readily to the stimulus of light. To what are these conditions due? The motor branches of the ciliary nerves that innervate the circular fibres of the iris pass through the ciliary region and become involved and lose their function, hence mydriasis and inactivity of the pupil.

5. Cloudiness of the aqueous and vitreous bodies. Patient complains of floaters before the eye and the ophthalmoscope reveals shreds and specks floating in the fluid, showing that disintegration is going on due to the disease of the ciliary region.

6. Periodic dimness of vision. Patient complains of periodic dimness. At first the periods may be quite far apart, but as the disease advances they become more frequent and are evidently due to the retention of the fluid of the eye affecting the circulation.

7. Halo of prismatic colors about the light. This is one of the most frequent symptoms of glaucoma and in a measure is pathognomonic of the disease. The outer portion of the halo is red and the inner part blue or bluish-green. This halo is only seen when the pupil is dilated and when the light traverses the peripheral portion of the lens and is evidently due to a diffraction of this part of the crystalline lens due to a loss of the power of accommodation affecting the refraction of the lens.

8. Contraction of the field of vision, especially in the peripheral portion. The field of vision is usually greatly contracted in its peripheral part which is near the seat of the disease, and the patient frequently speaks of his vision as though he were looking through a tube.

9. Ciliary neuralgia. This symptom in the acute form of glaucoma is persistent throughout all of the different stages of the disease. The patient complains of a sense of aching and tightness of the globe, the pain extends over the brow, through the temple and down the nose and especially in the region of the first or second branches of the trigeminal nerves. The pain is of a pulsating or throbbing character and so severe is it that it makes the strongest man tremble in agony. Sometimes this pain is referred to the back of the head when it is accompanied by nausea and vomiting. This ciliary neuralgia is evidently due to a pressure of the sensitive fibres of the ciliary nerves as they pass into the eye and through the ciliary region on their way into the cornea.

10. Anesthesia of the cornea with cloudiness of the central part. This is a frequent symptom of glaucoma, especially in the chronic form. The anesthesia is so pronounced that the cornea loses its sensitiveness and can be touched without causing the slightest pain. The ciliary nerves pass through the ciliary region and terminate in the pathologic layer of the cornea which is sufficient explanation of this phenomenon.

11. Scotomata, or blind spots, of which the patient occasionally complains, are due to hemorrhages of the retina due to over distension.

12. Arterial pulsation at the fundus of the eye and cupped disc are symptoms which the ophthalmoscope may reveal, provided there is not too much cloudiness of the media and are quite pathognomonic of glaucoma. The glaucomatous cup involves the whole optic disc with recession of the lamina cribrossa, while the physiological cup is simply a short depression confined to the center of the disc.

There are three different kinds of depressions of the optic nerve, (a) a depression without any recession of the lamina cribrossa and without change of color; (b) depression without recession of the lamina cribrossa and with a change of color from the normal to a milky white; (c) depression with recession of lamina cribrossa with or without change of color. In the glaucomatous cup the margin is abrupt, sharp and often excavated and as the blood vessels curve over the edge of the disc they appear interrupted and distorted. The optic disc is usually encircled by a light colored band which is due to the sclerotic shining through the atrophied choroid. At the margin of the disc where the arteries wind over a distinct arterial pulsation synchronous with the heart's beat may be present or induced by a slight pressure on the globe. The cause of this symptom is evidently the increased intra-ocular tension and the reason of their location may be explained by the fact that the foramen opticum is located at this part of the eye and there is less resistance at the disc from the fact that the dura passes directly on to the sclera at this point. Sometimes there is a staphyloma at the equator of the globe and occasionally at the sclero-corneal junction. The pulsation of the arteries at the disc is also pathognomonic of glaucoma.

The course of glaucoma in the acute form is often very rapid, destroying vision in a few hours. In the chronic form the course is slower and may extend over a period of months, but its tendency is steadily onward and if not checked by proper and timely treatment it means the loss of vision.

Treatment.—Prophylactic in the early stage of glaucoma, and is often effectual. Errors of refraction are to be corrected by proper glasses. Much attention has been given to the prophylactic treatment of acute glaucoma and this is now almost a disease of the past. In my early practice, twenty-six or twenty-eight years ago, scarcely a month passed without my seeing a case of glaucoma, but now, although I see many more patients than formerly, I rarely see a case of acute glaucoma. This fact I believe to be due to the prophylactic treatment so universally prescribed in the correction of hypermetropic and other defects not only by the oculists, but by the general practitioners and the opticians. When Cohen made his examination of 10,000 school children years ago, he did not take into consideration any error of refraction aside from myopia. In fact it was scarcely known that hypermetropia and astigmatism existed in those days. And I want to repeat that I believe we are logical in our conclusion that hypermetropia and astigmatism, with their first cousin, presbyopia, are largely responsible for glaucoma. Sleep is a much desired condition, for in sleep the pupil contracts. During the wakeful hours the pupil dilates. When the pupil dilates the iris is tucked back, crowding against Schlemm's canal and Fontana's space. When the pupil is contracted the iris is drawn away from these channels. The persistent use of mydriatics may induce glaucoma. Myopics are always indicated and when the disease is once established as in complete glaucoma there is but one treatment that offers any assurance of a permanent cure and that is iridectomy or sclerotomy. The results of these operations in acute glaucoma have been brilliant. The operation was first done by Von Graefe of Berlin in 1856 and has been a great boon to humanity, saving many thousands from total blindness.

Iridectomy should be done early during the primary stage in order to get the most good. An incision should be made well back of the sclera, iris should be cut snug up to the ciliary attachment. I do not think that it is necessary as has been recommended by Fuchs and others that a large piece be taken, but rather that this piece be torn or plucked as close to the ciliary attachment as possible that the channel be re-established through Schlemm's canal.

805 McGee Street.

[Written for the MEDICAL BRIEF.]

Some Observations on a Common Subject.

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If the average practitioner would appreciate the importance of a thorough cure in every case of gonorrhea seen in the early stages, there would be less necessity for surgical operations. In other words, the very large percentage of cases of "unconscious contamination" would be materially lessened. Too many practitioners commit the error of discharging their patients as soon as the urine has cleared up, and without making the necessary microscopical tests. However, there has been some improvement in this respect; formerly it was quite common to dismiss the patient as soon as the discharge had stopped and the urine showed no evidence of pus or debris, so that many patients were discharged at the beginning of subsidence of the disease, only to infect others.

The first symptoms of a gonorrheal infection are uneasiness, followed by painful micturition and a discharge lasting for some days. The time of the acute stage varies with the treatment given, but usually extends over two to eight weeks, and sometimes much longer.

The patient should be treated daily. This treatment consisting of ablutions, the washing out of the entire tract by the hydraulic process. The water being uniformly warm and containing such ingre-

dients as are best adapted to counteract the effect of the conditions present. If the disease is not attended to early in the acute stage there will be a spread of the infection backward into the posterior part of the channel. At the same time, if treatment is prosecuted too vigorously this same result may be brought out. The short hand syringe, so commonly used by many practitioners is a constant source of irritation, and its use is many times followed by such complications as peritonitis, cystitis, epididymitis, stricture, compression, etc., any of which add materially to the seriousness of the case. These complications may be avoided by the use of the hydraulic process. This treatment must be given carefully, the flushing must not be too powerful nor too severe.

In chronic forms of the disease where a through and through irrigation from the bladder out is necessary, the irrigation with whatever preparation of silver is found most suitable may be followed by a frontal irrigation of permanganate of potash. Sometimes the permanganate of potash is used as a through and through irrigation, provided it is not found irritating to the patient.

In those cases where a folliculitis follows the infection the cure is necessarily long delayed. The folliculitis may obtain in any part of the canal, and especially the prostate, and perhaps the seminal vesicles may also be involved. If the folliculitis becomes chronic, in such a case, the prostate should be massaged bi-weekly, and the irrigation resumed. If the condition does not respond quickly to treatment instillations of the prostate are indicated. Where there is much pain, silver nitrate 1-500 is a valuable aid. Suitable internal treatment may be instituted.

In these cases we often have a condition or irritation due to too strenuous treatment, that is, painful and too frequent micturition. The patient is called upon to void water every few minutes during the day and night. This condition must be treated at once, and until it responds to treatment, the regular treatment can not be continued, hence the importance of immediate relief.

Proper hygienic measures must be insisted upon in the management of these cases. There must be absolute chastity, no indulgence in alcohols, tea, coffee or narcotics, nor tobacco in any form.

Courier-Journal Building.

[Written for the MEDICAL BRIEF.]

Echinacea Angustifolia.

BY HARVEY WICKES FELTER, M. D.,

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No remedy, not in itself a powerfully poisonous agent, introduced in recent times, has given such universal satisfaction as a medicine, or shown such decided therapeutic value, as has echinacea. When introduced, it was the intention of Dr. Meyer, of Nebraska, to place it upon the market as a secret remedy under the name Meyer's Blood Purifier. Upon advice of Prof. John King and others who had the interests of eclectic pharmacy at heart it was brought out in the usual way and was developed and first used by eclectic physicians. Of its superlative value as an internal antiseptic, for use in septic conditions, all eclectic physicians are well aware; therefore it is not my purpose to dwell upon its worth as an internal remedy in blood depravation. Rather is it my intention to urge its more extensive employment as a topical remedy in injuries and unhealthy local sores. A long experience with it has taught me to rely upon it as the first agent to be tried upon wounds. It may be used diluted or full strength upon cuts, lacerations, dog bites and crushed or bruised parts. The results are so positive and prompt that one is led to believe that it must surely contain some wonderful principle, most likely of an alkaloidal nature, but chemistry has thus far revealed the presence only of a resinous body. To this body its therapeutic value is due. I know of no remedy of greater value for septic wounds so often received by butchers, or by those who scratch themselves with a pin, or upon handling tin or glass. These cases come to us when infection has taken place and the parts are badly swollen and often of a livid color. Squeeze the parts gently and a sanious

serum exudes. Often the maceration of tissues is so great that extensive patches of skin are loosened. With such cases my first application is somewhat as follows:

℞ Specific Echinacea ..... ½ ounce.
Asepsin ..... 5 grains.
Glycerin ..... 2 drachms.
Water ..... q. s. ..... 4 ounces.

M. Sig.: Apply by means of gauze saturated with the lotion and changed every hour.

With a similar lotion, and the addition of a few drops of carbolic acid, I have had excellent results in suppurative bunions, first opening the cavity by a liberal incision. In no case of gunshot wound, from toy pistols, cartridges, or from dynamite caps, has tetanus developed where I have freely used echinacea as a local dressing. Bites of insects are speedily rendered painless by the use of full strength specific echinacea. One remarkable property that I have observed is its power to deodorize foul wounds or sores. Healing under its use is prompt where healing is possible, and if there be those who have not used it I would urge a single trial of it in suitable cases. It must be remembered that other drugs of the Rudbeckia species have been used by unscrupulous manufacturers in the preparation of fluid preparations of echinacea, and that good results can only be expected from good medicines.

N. E. Cor. Pitts and Chase Avenues.

[Written for the MEDICAL BRIEF.]

A Few Hints on Infant Feeding.

BY HUGH N. LEAVELL, M. D.,

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Barring congenital deformities and predisposition, we begin life with a perfectly healthy organism. Proper diet and clothing should maintain us in this healthy condition. The mortality in infants, due to artificial feeding, may be classified as follows:

1. Improper diet.
2. Lack of knowledge of the digestive capacity of the infant.
3. Individual peculiarities.

It has been stated that a disease for which many remedies have been advocated, is exceedingly difficult to cure. The same may be said of infant feeding, if we take into account all of the foods which are held up as a panacea for the poor infant's woes. There can be no doubt but that the pendulum has swung too far, and that we as pediatricians and general practitioners ought to call a halt. That some of these foods are useful as a temporary expedient there can be no doubt, but it is nearly always an evidence that proper care has not been given to the study of cow's milk, and its modification that leads men to the use of other foods.

When we begin the modification of cow's milk to suit the infant, it is necessary for us to think in percentages always. Again, we must bear in mind the fact that cow's milk, even if modified to approximate the constituents of mother's milk, is still not the food which nature intended for the infant, but it is the next best thing to human milk, and is more easily obtained than any other substitute. Cow's milk should then be considered proper diet for the infant in the absence of mother's milk. Most of the trouble which occurs from the infant's inability to take cow's milk has been caused by overfeeding; that is, too strong mixtures have been given with the idea of having the infant gain in weight more rapidly. There is certainly nothing more erroneous. It is much better that we begin with diluents and increase these as the infant's digestive capacity increases, but if necessary to withhold all food for a period of twenty-four hours, using purgatives to clear out the intestinal tract of all material which may be present, and starting over again.

The proteid element in cow's milk is the one which is likely to give the most discomfort to the infant and produce most of the digestive disorders which may occur. This element coagulates in cow's milk in much larger particles than in mother's milk. Given an infant six months of age, we should begin by diluting our proteids with water to reduce the element to not more than one per cent, and then add cream and milk sugar to make up for the deficit which has been produced by the diluent.

A formula which I have found most satisfactory for working out these percentages is Baner's. First estimate the total quantity to be administered in twenty-four hours.

$$\text{Cream} = \frac{Q}{12} \times (F - P)$$

$$M = \frac{Q \times P}{4} - C.$$

$$\text{Aq.} = Q - (C + M).$$

$$M - S = \frac{S - P}{100} \times Q.$$

Say for instance that we wish to give 3% fats, 6% sugar and 1% proteids and administer twenty-four ounces, using sixteen ounces of cream or gravity cream. We have:

$$\frac{24}{12} \times 2 = 4 \text{ ounces.}$$

$$M = \frac{24 \times 1}{4} - 4 = 2 \text{ ounces.}$$

$$W = 24 - (4 + 2) = 18.$$

$$M - S = \frac{6 - 1 \times 25}{100} = 1\,1/5 \text{ ounces.}$$

It will be found much easier to remember this formula than to try to keep in mind a certain percentage of each of the ingredients.

Lack of knowledge of the infant's digestive capacity is a source of much trouble in infant feeding. No infant can digest starch until the sixth month, hence starchy foods should be interdicted, and it is too often true that most prepared foods on the market today contain excessive amounts of starchy material or insoluble carbohydrates, which act as intestinal irritants. The capacity of the milk in ounces should also be remembered, because in overloading the stomach we are likely to provoke vomiting, and to cause the whole mass to be ejected and the infant's capacity for the next feeding to be materially lowered as a result.

It must be borne in mind that each case is a law unto itself. Just as we administer medicines for the cure of disease, so we must administer a diet to an infant, remembering always that idiosyncrasies which exist regarding drugs may exist to cow's milk or any other food employed. The stools must be watched closely to note the presence of curds.

We must remember also that a diet which is given beyond the age or digestive capacity of an infant is liable to produce inanition sooner or later.

Much of the repugnance which the infant may show toward cow's milk may be due to the fact that the milk has been given at irregular intervals, or that the infant is allowed to nurse at night, particularly after the sixth month. The infant should be wakened during the day to take its milk at regular intervals and allowed to rest at night. Its digestive capacity will materially increase by observing this simple rule, and many of the idiosyncrasies disappear.

1120 Second Street.

[Written for the MEDICAL BRIEF.]

The Value of the Normal Saline Solution in Obstetrics.

BY C. A. RITTER, M. D.,

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The great therapeutic value of this agent is universally acknowledged by the majority of the medical profession. Its scientific application in the various departments of medicine, surgery and obstetrics is regarded as one of the greatest life saving agents discovered during the past two decades. So valuable and varied are its indications, so cheap and simple its preparation, it is so easily and quickly administered, and is such a potent factor in the saving of life that it constitutes one of the most important remedies in the armamentarium of the physician. While the profession as a whole recognize the great value of the normal saline solution, its usefulness is frequently curtailed from the fact that many physicians lack the experience to fully realize the appropriate time for its use and magnify the possible dangers in its administration.

To secure the best and most lasting results this therapeutic agent should be employed with discretion. Its use should not be delayed until all hope of success has passed. It should be employed in sufficiently large quantities, varying with the conditions manifested in the individual case. The temperature of the solution should range from 98° to 112° F. Absolute antiseptic precautions govern the technique as to operator, instruments and patient.

The dangers which may accompany or follow the operation are the introduction of air, septic material, over-distension of the vascular system, too forcible or too rapid introduction, too high temperature

of the solution, and abscess at the point of insertion.

At present no general or special surgeon confronted by a long, difficult or bloody operation, regards his preparations against complications and accidents as complete without having prepared, with the usual apparatus necessary for its use, the normal saline solution. The same general rule should hold good in the hands of every obstetrician, who is called upon to perform many of the minor or enter upon the major operations in his line of work. A very large amount of obstetrical work is done outside of hospitals, frequently under the most unfavorable surroundings.

Under such conditions many of the most dangerous emergencies and accidents occur, demanding on the part of the attendants prompt and well directed methods, efficient action and heroic measures. It has been said that he who strives to do obstetrical work should never be surprised, realizing that there is always an uncertain quantity in every case of labor. Physicians should go prepared to meet the common emergencies as well as those of rare occurrence in the lying-in room, and have at their command all the necessary apparatus for the use of the normal saline solution by the various routes so well known to the profession.

In the hands of the obstetrician the use of the normal saline solution fulfills a special indication in the treatment of puerperal eclampsia. The present consensus of opinion pertaining to eclampsia as based on bacteriological investigations, clinical experience and post mortem findings, ascribe the premonitory symptoms, danger signals and convulsive seizures, due to a common cause. That is, the presence within the tissues and fluids of the body of existing toxins largely of unknown composition and uncertain origin. All operators agree that in the systematic stimulation of the different emunctories we possess the safest and quickest avenues of elimination. The logical line of treatment under such conditions is the adoption of measures calculated to bring about an over action of the above functions. The usual methods of securing elimination in the more severe forms of the disease frequently prove insufficient. It is under such conditions that we derive marked benefit from the timely assistance of the normal saline solution independent of or associated with venesection. The former objections advanced against the removal of a sufficient amount of blood to materially diminish the arterial tension, reduce the circulating poison and assist in arresting the convulsions, that in so doing the patient is left in a weakened state, exhausted from the sudden loss of blood and unable to resist future convulsions or complications.

The above objections and dangers are largely overcome and the safety of the patient greatly increased by immediately following the withdrawal of blood by the intravenous introduction of a similar amount of normal saline solution, which assists in diminishing and diluting the toxins, causing a temporary artificial hydremia without increasing the dangers of great arterial tension.

The virtues of the normal saline solution are those of a mild, hemostatic, antiseptic, diaphoretic, diuretic and cardiac stimulant. The benefits of the solution do not cease with the close of labor, but are recognized during the puerperium in the treatment of sapremia, septicemia, nephritis and other pathological conditions. The greatest benefits to be derived from the solution in these conditions are obtained through a continuous use over a period ranging from a few hours to several days, either continuous, intra-uterine, colonic or rectal.

Combined with other general rules of treatment the use of the saline solution in all forms of severe hemorrhage from whatsoever cause, source, or period of gestation, or shock, with or without loss of blood, has become our sheet anchor when properly and judiciously used. In the various forms of anemia depending upon intercurrent or pre-existing disease, this solution has served us well in re-establishing circulation.

In terminating labor by high or difficult forceps application, version, the various conditions of embryotomy and other major operations, the operator should always have in readiness the normal saline solution, thus saving time, and possibly the loss of human life.

There are three recognized routes of administering the normal saline solution as applied in surgery and obstetrics: The rectal, or enteroclysis; subcutaneous or hypodermoclysis; and the direct or intra-venous. The fourth method which is designed to extend its field of usefulness is what may be termed "drop rectal irrigation."

The rectal route is most frequently employed in obstetrical work, in mild forms of hemorrhage or shock. In this method we frequently fail to secure the best results, from the fact that we overlook the advantages to be derived from gravity. The foot of the bed should be elevated as well as the patient's hips; the rectal tube should be passed above the sigmoid flexure, as we desire by gradual distension to secure absorption from the ascending, transverse and descending colon. The solution should enter slowly. From experience we have found the mucous membrane absorbs fluids more rapidly and we secure better results when the temperature is near that of the body. The advantage of this method is that it can be introduced by the nurse, there being no danger of infection or overdistension. While slower in its effects, yet when dealing with emergencies in clinical or private practice with no assistance, this is one of the safest methods of rallying our patient until more effective measures can be employed.

Altman Building.

[Written for the MEDICAL BRIEF.]

Sexual Neurasthenia.

BY JOSEPH L. BOEHM, PH. G., M. D.,

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Much knowledge of sexual neurasthenia, as we understand it today, is derived from the early writings of the late Dr. Beard, of New York. The term "neurasthenia," however, was not original with Beard, but was defined by Kraus in 1844, antedating the work of Beard many years.

Sexual neurasthenia signifies sexual exhaustion, and affects persons of every stage of life and culture. The term is merely a clinical classification, and is not dependent upon any racial or national environment, but entirely upon conditions of advanced or modern civilization. Experience in large clinical and dispensary practice has proven that sexual neurasthenia is found as frequently among foreigners as Americans. It is observed in both sexes, with the probability that in its varied phenomena it has been more thoroughly diagnosticated in the female than in the male.

The practitioner today does not generally dismiss a suffering female patient, debilitated, anemic and ill-nourished with a "snap" diagnosis of hysteria, when she may have a malplaced uterus, movable kidney, or adherent or inflamed ovaries. In these patients the physician makes a pelvic examination.

On the other hand, what is the common attitude of the average practitioner when appealed to by the suffering male patient with all of the symptoms of sexual neurasthenia and debility? It is as imperatively essential for such a male patient to have a routine and methodical pelvic and visceral examination as it is with the aforementioned case of the female. The bladder, prostate, seminal vesicles and ejaculatory ducts are to the male what the uterus, ovaries and tubes are to the female, and must necessarily be as carefully palpated and inspected as the latter, when there is a history or symptoms of sexual exhaustion.

The intimate and complex relationship of the male genital tract with the sympathetic and spinal nervous system is a vital factor in the functional disturbances of the nervous system due to diseases of the genito-urinary tract. The various neuroses have been studied by Ultzmann, Kraft-Ebing, Leyden, Erb and others. The functional diseases, however, impotence, sterility, prostatorrhea and spermatorrhea are part and parcel of some previous organic urethral or genital disease, and should be scientifically considered merely as symptoms. These functional disturbances destroy the patient's equanimity of mind and body, and the symptomatic sequelæ are not of as vital importance as the main underlying cause. It is, therefore, of paramount importance to look for the primary cause and study all the signs above mentioned.

Functional diseases are commonly followed by serious impairment of the spinal cord and sympathetic nerves, in which case we have conditions of spinal anesthesia, vasomotor disturbances, etc. Sexual neurasthenia, etymologically considered, embraces these symptoms complex of nervous involvement, and impairs nerve function without causing an entire organic change in the nerve structure itself. It is due to some remote cause of primary disease in the sexual organs. From my experience with sexual neurasthenia I find the prostate and prostatic urethra to be more commonly the seat of primary disease or infection; very commonly a posterior urethritis either from gonorrhea originally, or following a prolonged course of sexual perversion and *onanism* itself. The various forms of sexual "frauding" so commonly practised in matrimony to prevent pregnancy are also potent factors.

These conclusions are obtained from methodic rectal and urethroscopic examinations in almost every case in my experience. From these observations and those made in the deep urethra and prostate of recent syphilitics, I have found that many syphilitic cases with a protracted chronic posterior urethritis of non-syphilitic origin have local symptoms magnified and increased in severity, in acute exacerbations of prostatic congestion. In speaking of chronic urethritis we must remember that stricture of the urethra is commonly the cause of this prolonged inflammatory condition, and consequently it is the stricture that primarily causes prolonged involvement of the deep urethra. Hence, before treating a case of sexual neurasthenia, it is of absolute importance to ascertain the presence or absence of chronic prostatitis, with or without urethral stricture or involvement of the seminal vesicles. Hypertrophied vera montanum and previous syphilis, sexual excesses and abuses are generally amongst the most prominent underlying primary factors in sexual neurasthenia of the male, and play as important a role as gonorrheal infection; and serious error is often made when the family practitioner, consulted for the first time by some man who is suffering with a well defined case of sexual neurasthenia, hastily dismisses his patient with the flattering assurance that rest and diversion will cure him. It is entirely unjustifiable to make light of this condition, and to frivolously prescribe some phosphorus or aphrodisiac pill or mixture. Would we dismiss the anemic, nervous female with diseased ovaries, tubes, or uterus by telling her she ought to take a bromide mixture? Then why not equally endeavor as carefully, by rectal and urethral examination, to ascertain if any pelvic or local signs of genital or urethral lesions are to be found in such male patient.

It is to be granted that not every practitioner has the necessary instruments to make such investigation, in which case it is morally obligatory on him to call assistance of the specialist. Damiana, phosphorus, strychnia, cantharides and the phosphates have their logical and proper time and place for use in treatment, but should and must not be used indiscriminately in all cases of sexual neurasthenia because they are said to be useful in this condition.

To summarize: Find the lesion; usually in the prostatic urethra. Apply local treatment, especially not forgetting that hypertrophy and ulcerations of the vera montanum is a most common condition, and then consider of minor or secondary importance medicinal measures for the nervous system—drugs, mechanical appliances or electricity.

715-717 North Eighth Street.

[Written for the MEDICAL BRIEF.]

Methods of Infection in Tuberculosis.

BY WM. C. MITCHELL, M. D.,

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In drawing conclusions from the great mass of evidence submitted by various investigators, it seems justifiable to regard the human and the bovine bacillus as varieties of the same species, with the bovine bacillus as much the more virulent of the two, and therefore all the more dangerous to mankind.

As to how these bacilli are given off from the diseased person or animal harboring them, the matter is very simple.

In pulmonary tuberculosis the number of bacilli given off in the sputum sometimes reaches an almost incredible number, and in the care and sterilization of the sputum of phthisical patients is largely bound up the prophylaxis of tuberculosis. The breath of the consumptive is free from germs, as was shown by Naegalis; but in the act of coughing and even speaking some of the moist particles are torn from the mucous membrane and produce a fine spray in the immediate neighborhood of the patient. In tuberculosis of the bowels and of the genito-urinary tract, the bacilli may be given off in these secretions in considerable numbers and also form sources of infection. Tubercular cows give off the bacilli in their milk, and in addition the fact of their flesh and organs containing the bacilli must also be considered.

Infection.—Leaving out of consideration the direct transmission of the bacillus to the newly formed fetus, the subject of infection is divided into three headings:

1. By direct contact.
2. By inhalation.
3. By way of the gastro-intestinal tract.

Infection by direct contact is almost wholly confined to the veterinarian and the pathologist, although infection by kissing tubercular subjects must also be considered. Infection by inhalation is almost universally regarded as the source of infection. The ease with which the tubercular patients may scatter their sputum and other secretions, the hardiness of the bacillus under adverse conditions of life, the facility with which these secretions may become pulverized and scattered in the air and be inhaled, together with the chief seat of this disease being the lungs, are all weighty factors which contribute to the soundness of the view that inhalation is the chief source of contagion in tuberculosis.

Infection by way of the gastro-intestinal tract has always been acknowledged as a source of infection, but has been regarded as of very much less frequent occurrence than infection by inhalation. The great amount of money that has been expended in the diagnosis and extirpation of tuberculous cattle was done, not so much because this was thought to be the chief source of the trouble, but because it was much easier to frame laws and enforce hygienic measures against tubercular cattle than against tubercular beings. Behring in 1903, stated that he believed the infant's diet of milk was the chief source of infection in tuberculosis. This radically different view of the opinion commonly held by sanitarians, coming from a man of Behring's weight and authority, compels us to at least investigate the proofs offered by him as supporting this theory. Behring starts with the accidental discovery made by Romer, one of his assistants, that albumin, when taken into the infantile gastro-intestinal tract, passes out into the circulation exactly as if it had been injected therein, i. e., it is not converted into peptone and digested as it is in later life when the mucous membrane is fully developed. In other words, the infantile mucous membrane is regarded as a porous sieve through which the infantile diet of milk and all the bacteria contained therein pass directly into the circulation. Antitoxin given by the stomach to the newly born was obtained almost quantitatively in the blood. Hardly a trace will pass into the blood when the mucous membrane is developed to the digestive stage. Different bacteria, among them tubercle bacilli, when fed to infantile laboratory animals, were found to pass directly into the circulation and lodge at will throughout the body. Hence Behring believes almost all cases of pulmonary tuberculosis to be of infantile origin and that the vehicle of contagion has been milk, either milk from a tubercular cow, or milk infected by contact with tubercular persons, or dried tubercular dust, etc., in its journey from the stable to its final delivery. He does not deny the possibility of infection by breathing the bacilli directly into the lungs, but thinks that these infections seldom lead to pulmonary tuberculosis proper. It is only when the groundwork has been laid in infancy that the latter, under such adverse conditions of health, hygiene and the superimposed infection of inhalation-tuberculosis are united that the condition develops into one of tuberculosis proper. This brings the question back, according to Behring, to somewhat near the old belief of the heredity of tuberculosis, only

we must consider the infection as postgenital instead of prenatal.

Thus we see that Koch and Behring, who may be regarded as the greatest living authorities on the sources of contagion in tuberculosis, attack this problem from diametrically opposite points; one believes the pulverized sputum to be the chief source and denies the danger of cows' milk, the other believes cows' milk to be the chief source, whether it be from the bovine bacillus inherent in the tubercular cows' milk or whether the milk is infected with human bacilli. Until these bacteriologic giants settle the various points at issue, it is well to regard all forms of the tubercle bacillus as dangerous, whether they be avian, bovine or human, and to exercise all known precautions to prevent their coming in contact in any manner with the human organism.

Behring has attempted a plan of immunization on man on the theory that the immune bodies in highly immunized cows pass into the milk. The method is one of prophylaxis rather than cure, and is especially adapted to children.

Behring, in his last address at Paris a few months ago, gave some meagre details of a new method of immunization. He believes there is a substance in the tubercle bacillus which represents the quasi-vital principle of the bacillus. He designates this substance as TC. This TC is the cause of the hypersensibility to tuberculin and it is also the substance which causes the protective reaction against tuberculosis. This substance is elaborated from the bacilli during the process of immunization by the leucocytes. The absorption of this substance by the leucocytes causes the state of immunity. The elaboration of TC by the system is always long and perilous, and Behring believes he has succeeded in obtaining this substance in vitro in such shape that by injecting it into human beings he can produce immunity against tuberculosis, or, as he expresses it, he has succeeded in transforming active immunity into passive immunity. If this be true, it is even a greater gift to mankind than his antitoxins of diphtheria and tetanus.

California Building.

[Written for the MEDICAL BRIEF.]

Demonstration of a New Management of Pulmonary Cavities, Hemorrhages and Pleurisy by the Fixation of One Half the Chest.

BY CHARLES DENISON, A. M., M. D.,

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The method of management of certain one-sided diseases of the lungs which I shall demonstrate, has been somewhat of a study with me for from twelve to fifteen years. The object has been to secure a fixation of one-half of the thorax by means that could be easily borne for a long time. The plasters which were first used, were those ordinarily sold at the drug stores, and which would irritate and wrinkle, making it impossible to use them in certain cases, and also in others to reapply them when once they were removed. The width of these plasters, too, was inadequate for the purpose; finally, after trying for several months, and experimenting with many kinds of fabric, I succeeded in getting some made of the unusual width of nine inches, and of a material which would neither stretch nor wrinkle. This fabric spread with zinc oxide rubber material answers the purpose so well that it leaves nothing to be desired.

Taking these plasters in two widths, the new nine-inch and the ordinary seven-inch width, they can be cut according to the following diagram, to suit any sized chest; the object is to have the fan-shaped ends broad enough so that the whole of the infra-axillary and lower axillary space could be covered. One of the best ways is to use the nine-inch width for all adult cases, and cut through from C through E in the center to D, leaving the larger portion of each end on the fan-shaped side, so as to give the larger surface for adhesion to the chest. The length of this plaster can be measured from the axillary line to the opposite shoulder, or about two inches more than one-half the circumfer-

ence of the chest at inspiration. (Diagram No. 1.)

If the nine-inch plaster can not be obtained, the seven-inch width must be used

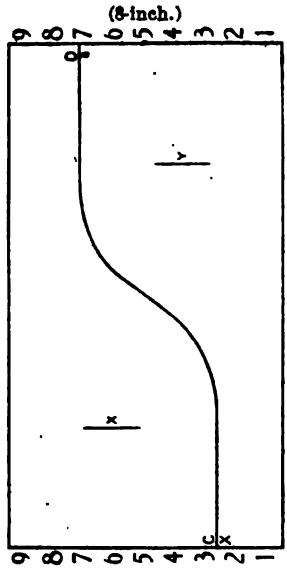

DIAGRAM 1.

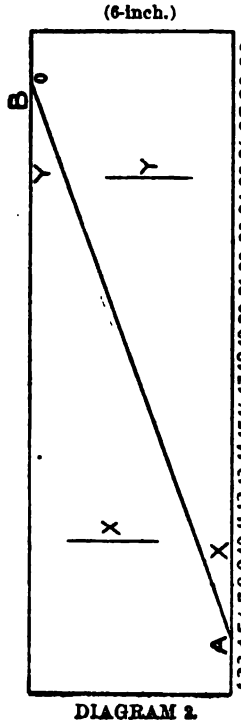

DIAGRAM 2.

for large chests, say over thirty-five inches in circumference; the plaster can be cut through diagonally from A to B, as shown in the second diagram, leaving the broad ends by having A and B two to three inches from the respective ends. The length of this plaster should be about six inches longer than the given circumference of the chest at inspiration. Having cut the plaster through, the muslin is stripped off from the whole piece, as each of the small ends are to be covered with canton flannel, the fuzzy side out. This will leave from four to eight inches uncovered, which is sufficient space for the plasters to be adherent to the skin in the infra-axillary region. The plasters are then ready for application. A collar is made for the opposite shoulder, and this is an important feature, because the greatest pressure is found to be in the infra-axillary region, where the collar pulls against the ribs. A piece of canton flannel is cut about one foot wide and long enough to extend round the shoulder. In this collar is rolled a little absorbent cotton, enough to make a soft roll about one and one-half inches wide and one-half inch thick. This can be sewed so as to fit, not too tightly over the shoulder, or the ends can be fastened with safety pins, and then the plasters prepared, as previously described, are applied, being crossed in the axillary space, on the side to be immobilized, being careful to have the direction of the small ends upward to the other shoulder, so as not to wrinkle the plaster when traction is applied. The plaster can then be pinned to the collar as firmly as needed, and can be made firm enough to almost annul the movement of the side under treatment. If the same circumference had been previously measured and the movements of the two sides are about equal, for instance, the uncompressed side will have increased one or two inches over the amount of the other side. The extent to which this compression is to be used is decided by the physician in attendance. If the object is simply to overcome the pain or pleurisy, the tightness will accomplish this. If the object is to stop a pulmonary hemorrhage the extent of compression will need to be sufficient to annul one-half of the movement, that of the affected side. To compress or control a cavity we expect to use the plasters for a long time, and a compromise

can be allowed to lessen the immediate force so as to permit a continuous use. The principle is to encourage the use of the unaffected lung and discourage the use of the affected one. The importance of this method will be apparent to every physician who has any mechanical trend of mind, and especially to those who live in high altitudes, such as the Rocky Mountain region, where, at a mile above the sea level the necessity of breathing twenty per cent more air to get the same amount of oxygen is necessary.

The question of thoracic pressure is very interesting, for it is evident that the pressure state within the lungs is constantly doing more than we can appreciate, even with ordinary respiration. The negative pressure during inspiration has to be immediately followed by the positive pressure during expiration. It is during expiration then only, that there is any plus pressure within the thorax. The alternate variation between the minus pressure of inspiration and the plus pressure of expiration within the chest is exaggerated during every effort at extreme exercise, as lifting, coughing or sneezing. The following case is a striking example of the damage which can be done to a central cavity through the constant irritation of coughing:

Mrs. G., aged twenty-eight; married five years; height five feet three inches. Glands in neck much enlarged, scattered by iodine two or three years later; bronchial trouble for six months in college in 1896, and another attack in 1899. In February, 1903, had septic fever following confinement, rupture of perineum and retention of some of the membranes. Has coughed ever since. Was better in June, 1904, but worse in July, with profuse yellow expectoration. Night sweats in July, and some slight blood spitting in October. Arrived in Denver in August, and had improved somewhat. Muco-purulent expectoration three ounces in twenty-four hours, containing tubercle bacilli and mixed infection. Temperature subnormal mornings and 99° to 100.5° F., evenings. Spirometer record seventy-five cubic inches, and manometer record thirty millimeters. Catamenia regular, weight one hundred and eleven pounds. Chest expansion two inches, right side movement a little more than left, notwithstanding the excavation on the right side.

Patient was surprised that I found a cavity reaching from underneath the right clavicle over behind to the sixth interspace in the interscapular region. The rear portion of this cavity averaged one to over two inches wide by five inches long. The diagnosis was broncho-fibro-tuberculosis, third stage top right; second stage base right and extreme apex left, with first stage involvement of the middle of the left lung. From catching cold in February she had some pleurisy, with probable adhesions in the right inframamary and lower axillary regions. This was controlled at first by anodynes and the firm application of strips of belladonna plaster around the circumference of the affected side. Later the traction plasters were applied; at first above or partly over the right breast, and after three weeks renewed but crossed lower down so as to pull from the lower axillary region and from under the right breast. This latter method was preferable and very effective, the record showing a reduction from 101° to 98½° F., between April 4th and 16th, no antifebrifuge of any kind being used. After two months of almost continuous wearing of the traction plasters, the rear cavity was found to be contracted to two-thirds its former size. There is increase in strength and ability with the plasters on, to raise the one-half decreased expectoration. There is no doubt whatever that this traction plaster treatment has been very helpful to a systematic course, encouraging us to keep it up intermittently, if not continuously, for a long time.

The many instances we have met of pulmonary hemorrhages being caused by over exertion or lifting also serve to impress one with the importance of this pressure condition. My own explanation of this pressure condition in pulmonary hemorrhages may differ from that of others. I take it to be this way; that the pulmonary arteries which carry the venous blood to the pulmonary capillaries do not anastomose, and the pulmonary veins which carry the oxygenated blood on towards the heart do anastomose. When inflammatory engorgement or other cause, there is a plugging with stoppage, from of a pulmonary artery with forcible inspir-

ations preceding the cough, the blood which has been oxygenated is sucked around through the anastomosing pulmonary veins into the occluded portion of the lung fed by these pulmonary arteries, and thus congestion takes place which, on

Arrest of Pleurisy in Front and Shrinkage of a Large Cavity Behind.

increase of pressure, may break out into a pulmonary hemorrhage. This not only would satisfy the conditions when extreme exercise causes hemorrhage, but also explains why most of these hemorrhages are of bright red blood and not of venous blood, which these pulmonary arteries contain. This point may be new to some, but it is very vital. My confidence in this method of treating pulmonary hemorrhages has come to be so great that where I can determine the source of the hemorrhage, I would not exchange this method for all the ergot and morphine in the pharmacopeia. In fact, there is no need of much medication since the closure of the congested area, which is the source of the hemorrhage, is the best aid we can give to nature for its relief.

As to pleurisy, since it goes without saying that what we desire is to stop the friction of the two plural surfaces upon each other at the point of inflammation, the comfort of the fixation is very gratifying, as I can testify from experience. These plasters can be worn as long as their use is demanded. I do not see why we should not apply them in pleuro-pneumonia, where the lung is involved, as it is certain the inflammatory condition is aggravated by the necessity of using the affected lung, and rest can be best secured by these means.

I have lately been experimenting on several cases of pulmonary excavation, and with the most gratifying results in the use of these traction plasters. Where hemorrhage is from a pulmonary cavity the result is often just as favorable. Where the cavity seems to be just forming, and is the source of an irritating cough, the result is exceedingly good. These plasters can be worn for almost any length of time, as I have demonstrated in the case of Mrs. G., who wore them for almost eight months. The cavity has remained almost as small as the size to which it was reduced during the time of compression.

Stethoscopic percussion as a means of determining excavations in the lung is not generally practiced by physicians, and I wish to state how this examination can be most effectively made. The patient should sit in front of the physician, holding the large bell of the stethoscope in

Traction Plasters Applied Low Down for Relief of Diaphragmatic Pleurisy.

front of his open mouth (the instrument I use has a three-inch diameter bell especially for this purpose), and forcible and light percussion is then made over the sus-

picious region during long and steady breathing on the part of the patient. A suction sound combined with the hollowness of the cavity can be detected, and if

it is near the chest wall, with light fingernail percussions, the proportions can be very nicely outlined and marked on the chest wall. In old cases where the excavation is surrounded with indurated borders, it is not at all difficult to

locate. But if the cavity is closed or nearly closed, then the succussion sound will be elicited, and much can be made of this information also.

In addition to the above use of these traction plasters surgeons will find no better method of treating fractures of the ribs, especially when they are low down upon the chest. Where I have used these plasters for this purpose it has not seemed necessary to limit the patients so treated in their movements, or even to keep them at home while under treatment.

This young man, two years resident in Colorado, aged now twenty-seven, lives almost entirely on his right lung, the left having been destroyed by pneumonia, dating back eight years, pleurisy and tuberculosis. Excavation remains in front of left apex, and movement of left side is almost *nil*. Yet progress of disease is arrested and he earns $100 a month in a clerical position. The traction plasters have been of much service, especially when hemorrhage, pleurisy or softening have indicated their application to the disabled side.

1625 Logan Avenue.

[Written for the MEDICAL BRIEF.]

A Plea for the More Thorough Teaching of Diagnosis of the Position of the Fetus in Utero.

BY F. A. S. KAUTZ, M. D.,

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Obstetric practice, it has been many times said, is too time-taking, tedious and poorly recompensed to make it attractive to the busy and competent general practitioner, who is very often not only willing but anxious that this important branch of medical practice should be relegated to the midwife or less busy physician, who, by reason of improper preparation, are, in the majority of instances, incompetent and careless. They know little or nothing and care less about the position of the child in utero, and trust to Providence and good luck that each case may like a previous one, or like the great majority, be perfectly normal. They allow the posterior position of the occiput, the shoulder presentation, the breech and brow presentation—all of which require

skill and care for early diagnosis—to continue without interference until the condition of the patient indicates that something is wrong. They then call into the case some favored and more competent medical friend, who, in order to merit their continued patronage, protects them in their position, and explains to the panic-stricken family that while the situation is serious, it is one which the attendant (physician or midwife) could not have prevented; when, as a matter of fact, the early diagnosis of the faulty position by one competent would have been the means of alleviating a great deal of suffering on the part of the mother, and a very greatly lessened mortality as regards the child.

The reason for this deplorable state of affairs lies in the fact that the medical schools of today pay a great deal of attention to didactic teaching of this branch, but little if any to the practical teaching at the bedside of the patient. Men are graduated from medical colleges who have seen, perhaps, a score of cases, and have attended four or five, because the professor of the chair of obstetrics demanded that they hand in reports of that many cases, not because they themselves desired to do this work.

They attend these cases with the sole object of having them over and off their hands in the shortest possible time, that they may make the necessary report. They make an occasional examination, it is true, but with the sole thought in mind of how much progress the presenting part may be making, not taking the trouble to discover what that part may be or how it is presenting.

The remedy for this would be in the making of the last college year one of practical clinical work, with no lectures to attend and under the personal and watchful eye of the professors and instructors in the various branches. This would, in a measure, impress upon the minds of the soon-to-be-physicians a sense of responsibility, before entering upon the practice of their profession.

As to the midwives, their course of study should be lengthened from one year to at least two years, and the State can well afford to be very stringent in the examination of all applicants for permission to practice midwifery.

1223 Walnut Street.

[Written for the MEDICAL BRIEF.]

Rheumatic Fever—Pathology and Symptoms.

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Rheumatic fever is also called acute articular rheumatism and inflammatory rheumatism. In my opinion, rheumatic fever is the better term for this disease, because it expresses more thoroughly and completely the modern idea of the condition. It is defined as an acute non-contagious infectious fever, characterized by arthritis, which is almost always multiple, and with a special tendency to heart involvement.

I am a little disposed to criticise some text-books on this subject in defining this disease, in that many of them refer to it as an articular disease, an acute inflammatory arthritis of rheumatic origin, with heart complications. I take exception to this because I believe that the involvement of the heart, which occurs in from thirty to fifty per cent of all cases, is as much a part of rheumatic fever as is the involvement of any single joint in the body.

Etiology.—No definite bacterium has as yet been isolated. During the past ten years extensive investigations have been made along the line of the infectious diseases, many with reference to rheumatism; so many in fact, that it is scarcely worth while at this time to discuss them in detail because none has yet been accepted as the true cause. Sahli has isolated a streptococcus which, he has stated, is the cause of rheumatism. Other authors do not agree with him. Leyden has isolated a diplococcus, which he is just as certain in his mind is the cause of rheumatism as Sahli in his case. Poynton and Payne, two intelligent investigators, have isolated a diplococcus which differs somewhat from that of Sahli, and have done some most interesting work which is worth examining; but even their investigations, while they have gone far into the subject and made some almost conclusive experiments, have not generally been accepted. Flexner and Barker have arrived at the conclusion that the probable cause

of rheumatism is explained in that several pathogenic organisms may have entered the blood under circumstances incompatible with the development of the ordinary phenomena of general septicemia, and resulting in the inflammation of the joints, articular surfaces and the heart, which we recognize as acute rheumatic fever.

In all probability, at least so far as the bacteriological examination is concerned, Flexner and Barker are pretty nearly right, and until some one comes along with a positive demonstration, it is not worth while to waste time on theories.

There are several predisposing causes which, of course, have more or less bearing on the development of the disease. It is well recognized that the disease is more prevalent in a temperate and humid climate than in the colder regions. In other words, a changeable climate favors the disease, and it is most frequently observed in the seasons marked by the greatest climatic variation, as in autumn and spring.

The age of the patient is also a factor, and while the disease may appear at any age, it is rare in infants, and comparatively rare in old age, the majority of the cases occurring in young adults, so that it may properly be termed a disease of adolescence.

One attack does not give immunity, but rather predisposes to subsequent attacks. Males are oftener affected than females after the age of twenty; before this age the disease occurs in both sexes in about the same proportion. However, after the age of twenty, the male, by reason of occupation, is more exposed to the rigors of climate, and to that extent occupation is a predisposing factor. The disease has been observed most frequently in men of out-door occupations, for instance, drivers, sailors, and laboring men generally. Bakers are prone to this disease on account of their exposure to great changes of temperature. They escape from the intense heat of their ovens by rushing into the open air to "cool off," thus exposing themselves to an attack of rheumatic fever.

Heredity plays some part; just how much we can not say. But the child of rheumatic parents is much more likely to develop the disease. I do not believe that any child was ever born with it, as in cases of inherited syphilis, etc., but I believe that children are born with a tendency, rather than the disease itself.

Of all the predisposing causes, cold and dampness appear to be the most prominent.

The pharmaceutical preparations labeled as specific for this disease are legion, and are a remnant of the older theories concerning the cause of this disease. Among these theories that of Prout was perhaps the most widely exploited, viz., that the inflammation was an effort on the part of nature to eliminate the morbid material formed in the blood, and that materies morbi was lactic acid. Later on J. K. Mitchell introduced what he called his "nervous theory." This was, in short, that either nerve centers were primarily affected by cold, and that the local lesions were really trophic nerve disease, or that the primary nerve disturbance led to an error in metabolism and the accumulation of morbid material, lactic acid, in the system.

The germ theory, that the disease is due to a specific micro-organism, has not been definitely settled. This microbe, whatever it is, is certainly analogous to some others which we know, and some which we do not. The analogy between rheumatism and gonorrhea, rheumatism and scarlet fever and rheumatism and septicemia, is very close.

Autopsy in the case of the rheumatic patient reveals little that differs from inflammation due to other causes. Pus is very seldom found. When we do get a case of rheumatism in which there is suppuration of the joint I believe that it is a case of mixed infection. Although regarded as one of the dangerous diseases, rheumatism in itself is rarely fatal; it is the complication, the sequelæ, which cause death.

The most common complication, of course, are the cardiac, pleurisy and pneumonia. So far there is practically no characteristic morbid anatomy of this disease.

Symptoms.—The onset is usually abrupt; the patient feels chilly, rigors, rather than distinct chill. This may be preceded by irregular pains, more or less malaise, sore throat and even ulcerated tonsils. There is a very close connection

between sore throat and rheumatism, so much so that the throat specialists nowadays regard many of these affections as rheumatic, and treat them as such. After the onset the temperature rises rapidly, and one or more joints become inflamed and painful. The attack is usually fully developed in twenty-four hours after the onset. The temperature ranges from 102° to 104° F., except in rare instances, where we have hyperpyrexia; the pulse is rapid, soft and runs to or above one hundred. The tongue is coated, the patient complains of thirst, no appetite, the bowels are usually constipated, urine is scanty and high colored; high specific gravity, chlorides diminished or absent. In the majority of cases there is a sour smelling acid sweat, which is easily noticeable on entering the room, and is almost a diagnostic feature of the condition. The mind is usually clear, except when there is a hyperpyrexia, when it will be clouded.

The affected joints are red and painful, swollen, hot and exceedingly tender. There is no disease in which the suffering is greater. The patient assumes the position which is most conducive to comfort, and there he stays. He does not want anyone to come near him, nor touch him, and he may even require that the bed covering be lifted from the affected joint. No joint in the body is exempt from this disease, and it may quickly move from one joint to another; for instance, the right shoulder may be affected today, and tomorrow the pain may appear in the left knee. As many as five or six joints may be affected. I have never seen all the joints affected at once, yet it is seldom limited to one joint. The amount of swelling about the joint is considerable; it affects every part of the joint, synovial membranes, tendons and ligaments, and extends for some distance from the joint. The suffering is excruciating. It subsides in one joint only to begin in another. The fever will vary with the exacerbations. There is practicaly no intermission in these cases, generally speaking, only remissions. We look for heart involvement, of course, in every attack of rheumatism. We should examine the heart at every visit. A well defined attack of rheumatism is a very serious disease.

Hast Building.

[Written for the MEDICAL BRIEF.]

Indigestion—Its Diagnosis and Treatment.

BY GEO. D. KAHLO, M. D.,

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Functional disorders of the stomach constitute a considerable part of the practice of all physicians. Their successful treatment depends, as in other functions, upon the recognition of their etiology and correct diagnosis.

Dyspepsia, a term vaguely applied to a great variety of digestive disturbances, might be said to include all these conditions, and yet they are to be dealt with very differently, according to the particular disturbance or disturbances of function present. An intelligent estimation of these conditions can only be reached after a very painstaking examination and a careful inquiry into the history and the symptoms.

Too often the mistake is made of basing a diagnosis upon merely subjective symptoms. It should be an invariable rule in the investigation of cases which have existed for any length of time to make at least a careful physical examination, and in a considerable number of cases a correct diagnosis must also include an examination of the stomach contents after a test meal.

The first essential to a successful therapy is a proper recognition of the diet, and this applies to all forms of digestive disorders of whatever nature.

If the trouble is one where there is an increase of the gastric secretions, nitrogenous foods should form the major part of the diet, as it is food of this class which will take up the excessive secretions. Objection is made by some authors to such a diet, on the ground that these foods also have some influence in stimulating gastric secretion, and while this is true, the experience certainly will convince one that the role these foods play in supplying material upon which the secretions may act, will certainly offset any disadvantage in the way suggested.

If there is a deficiency in the secretion, it follows that foods which require a min-

imum of hydrochloric acid in their digestion, and in which the digestive processes take place chiefly in the intestinal canal, will serve as the best form of diet.

The question of nutrition is also one which must be constantly kept in mind, and an effort made to bring up the digestive function to the point of nutritional requirement.

The condition of motility will influence the question of the number of meals taken. Generally speaking, patients will experience less distress by taking smaller quantities of food at rather more frequent intervals, than would ordinarily be their habit.

A proper medication is, of course, indicated for the secretory function in hyperchlorhydrate. Alkalies taken will neutralize the excessive acid, and the best of these are, perhaps, calcined magnesia, given in doses of from five to ten grains, generally one-half hour to an hour after meals.

If the gastric secretion is deficient, hydrochloric acid is undoubtedly the best agent to supply this deficiency, and may be given, well diluted, in combination with some form of digestive fermentative.

But medication is, after all, the least important feature in the treatment of most cases of this character. Particular things to be considered are, first, an exact diagnosis, and, second, a proper regimen.

316 North Meridian Street.

[Written for the MEDICAL BRIEF.]

Acne Vulgaris—Its Treatment.

BY J. PHILLIP KANOKY, M. D.

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The causes of acne vulgaris are various, but can usually be attributed to faulty metabolism, stomachic and intestinal indigestion being the most frequent exciting cause of this trouble.

It is well known that faulty digestion causes a general systemic deterioration which makes impossible the proper action of the various functions of the body, and especially that of the skin.

Reflex troubles arising from uterine difficulties also add materially to the violence of the acne vulgaris. The inflammatory condition of acne becomes more manifest during the menstrual period. The uric acid diathesis also is a causative factor. In fact, anything that produces or causes a deteriorated physical condition is an active factor in the production and maintenance of this trouble.

Acne, as commonly seen by the general practitioner, begins as comedones, or black heads, which is nothing more or less than a dilatation of the sebaceous follicle and sebum. The follicle becomes dilated with uneliminated sebum, and the mouth of the follicle being engorged with sebum, dust gathering upon sebaceous material causes the so-called black head.

The second step of this disease is a further dilatation of the sebaceous follicle with sebaceous material and as the dried up block at the mouth of the follicle offers greater resistance to the elimination of the inherent material than the tube of the sebaceous follicle; thus you will have a greater dilatation of the follicle and a pressing upward of the material contained therein. This forms the so-called acne papulosa. A continuation of the accumulation of sebaceous material and a congestion of the tissue surrounding the sebaceous follicle will cause a liquefaction of the inherent material, and thus pus forms and we have the acne pustulosa.

The manifestation of this disease is usually found between the ages of fourteen and twenty-three.

Regarding the treatment, a matter of vital importance is the correction of faulty metabolism. Constipation which is almost invariably present, must be corrected, the stomach and intestinal indigestion corrected, by such remedies as the conditions then presenting may demand. As internal treatment ordinarily I have found ammonium sulpho ichthiolate, nux vomica and hydrastin to be the most agreeable and effective preparation. The usual laxative and bitter tonics may be employed when required. As an external application we have the ointments, of which a number could be mentioned. But those ointments containing ammonium sulpho ichthiolate or sulphur are to be especially recommended.

The most effective treatment for acne vulgaris today is the X-ray and therapeutic light treatment. I have found in a number of my cases where all therapeutic measures proved of absolutely no avail, that the X-ray was most effective in the production of a cure. In some cases I have found that the X-ray was of no benefit whatsoever, and the therapeutic light proved a most excellent and curative agent.

My method of external treatment of today is confined almost exclusively to the X-ray and the therapeutic light. I give preference to the light in the majority of cases, because it furnishes me with the best results.

The dietary is an important factor, and must receive the most thorough consideration of the physician. I prohibit the use of tea and coffee, alcoholic stimulants, pork and its products, and some of the fruits, especially the banana—all pastries and sweets. The patient must thoroughly masticate his food.

Ridge Building..

[Written for the MEDICAL BRIEF.]

A Resumé of Diabetic Gangrene.

BY THOMAS L. BUTLER, M. D.

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Among the various forms of gangrene, about which there is the greatest diversity of opinion, particularly as regards treatment, none is more productive of discussion in this respect than the form known as diabetic gangrene.

Under the head of diabetic gangrene we class two conditions:

1. Simple infection of tissue which is in a very receptive state; and,

2. The true form of gangrene, due primarily to an arterio-sclerosis, consequent upon a constitutional condition.

The first form does not differ in any appreciable degree from the ordinary infections observed as the result of diabetes. It appears, most frequently, in the arms and legs, but has been observed in many parts of the body; but when found in other locations it is not as a rule associated with arterio-sclerosis. This condition takes the form of a violent inflammation, and is best treated by hot, moist, aseptic or mildly antiseptic poultices. As little surgery as possible should be done. Our efforts are chiefly confined to helping nature get rid of this necrotic material, and never using a knife in virile structure.

The second condition, true gangrene, occurs as a rule in the extremities, seldom in the fingers, often in the toes. This does not differ materially in any way from the common senile gangrene, which we see so often. There is a great diversity of opinion as to the proper treatment of this condition, and probably with good reason. Some of the old writers on this subject are a little more hopeful in their prognosis. Personally, the writer's experience has not been so favorable. Some of our best surgeons go so far as to say that surgery should form no part of the treatment of this condition. Of course, a great deal depends upon the general condition of the patient at the time the gangrene appears. Other authorities make cut-and-dried rules as to what should be done in these cases, dependent upon the amount of sugar found in the urine, and the presence of albumen and casts.

It is probably a better plan to be governed more by the general condition of the patient than upon the state of the urine.

When the gangrene is confined to the toes, it is the writer's opinion that no surgery should be done, trusting entirely to nature to do the amputation, keeping the part as dry as possible, slightly elevated and warm. It is a temptation in these cases, that are apparently so simple, to amputate a toe and trust to a repair taking place. Those who have done this once are not likely to repeat the operation. It is when the gangrene approaches the dorsum of the foot that it begins to look alarming, and something has to be done in a very radical way or leave your patient to his fate.

If amputation is done at all it should never be below the knee, and even when done in the thigh we often see a return of the gangrenous process. Just why these patients are so prone to a return of the gangrene in the flaps is hard to say; certain it is that recurrence is much more frequent than in cases of senile gangrene.

The points to be emphasized particularly are these: There is no such thing as

diabetic gangrene *per se*, this condition always being due to an arterio-sclerosis, which certainly occurs more often in a diabetic patient than in any other of the general pathological conditions.

Do not do any meddlesome surgery, leaving nature to do the minor amputations.

If amputation is to be done, let it be always above the knee.

In waiting for nature to amputate, keep the part dry.

The prognosis in all cases is grave.

The first danger to be met is coma either following anesthesia or within three or four days. The second danger is a recurrence of the gangrene in the flaps; when this latter occurs nothing can be done.

Broadway and Third Street.

[Written for the MEDICAL BRIEF.]

Abnormal Rotation of the Occiput.

BY GEORGE CLARK MOSHER, M. D.,

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In giving the title to this paper on a subject of relative frequency and gravity, I have not followed the usual accepted method of designating one of the complications of labor, "Occipito-posterior positions," but adopt that which continental writers more accurately term "Abnormal rotation of the occiput."

This condition is frequently not recognized, and failure to diagnose the faulty position early in labor may result in the occiput being impacted in the sacral cavity, face to pubes with disastrous results to both mother and child. Fortunately nature is competent in the great majority of cases to bring about "normal anterior rotation," finally causing the occiput to come under the pubic arch, and there pivot, and the labor be terminated without interference; the fact that a long, tedious delay being the only indication that the mechanism of the labor has been otherwise than normal. How many times this has happened for us all it is only possible to conjecture, because a great majority of head presentations occur with the child's back toward the left side of the mother's abdomen, and the occiput to the left and anterior to the mother's pelvis; we satisfy ourselves that the head presents, and that is the extent of our examination. And yet it is easy to familiarize ourselves with the rudiments of obstetrical auscultation and palpation to the degree of being able to reach a fairly accurate diagnosis of position as well as of presentation.

In evidence of this statement the work done in the outdoor obstetrical clinic, Kansas City Medical College, is most conclusive. With only the drill in obstetrical diagnosis which can be given in class sections on the manikin in the obstetric service, the students are able to, and do make out presentations of positions in the great majority of cases, and have the diagnosis verified by the birth of the child. There is, therefore, no excuse for ignorance on the part of the experienced practitioner concerning the position of the vertex in any instance where the tissues are reasonably yielding and the examination is conducted with care. Occasionally, of course, a case is met with where unfavorable conditions make difficult a satisfactory diagnosis. The proportion of posterior positions which rotate spontaneously to the pubic arch is variously estimated by authors, and will average ninety per cent. In these cases the rotation is through three-eighths of a circle instead of one-eighth of a circle, as it would be in a normal anterior position. This knowledge is the most comforting fact concerning these cases. If any of the causes which produce anterior rotation is absent, posterior rotation will be favored, and the head may fail of anterior rotation.

The causes of anterior rotation are briefly:

1. There must exist the proper proportions between the maternal pelvis and the fetal head.

2. Flexion must be complete; this is absolutely essential.

3. The uterine contractions must be strong enough to force the head along the inclined plane of the pelvis, and the resistance offered by the perineal muscles must be adequate to drive the head forward through the pelvic outlet.

The lack of any one of these three forces may prevent forward rotation; in some cases no single factor may be found

to absolutely account for the difficulty, but there may be a combination of these. Thus, we may have a large head partially extended because of failure of ready engagement; this combination of disproportion of size of fetal head and want of flexion urge the occiput to the cavity of the sacrum instead of in the proper direction. There may be a narrowing of the walls of the maternal pelvis, or the inclined planes may not be distinctly marked so as to insure anterior rotation when the head reaches the line drawn upward from the ischial spines, and this abnormality of the pelvis invites the occiput to the sacro-iliac synchondrosis, instead of the ilio-pectineal eminence.

The posture assumed by the woman may be such as to prevent ready rotation during the early stages of labor. As a matter of fact there may be considered but one posterior position, namely: The *right occipito-posterior;* for, the natural right obliquity of the uterus and the presence of the rectum on the left side of the mother's pelvis, renders a position with the occiput on the left side posterior and the back of the child to the left so rare that it is a question if it ever occurs at all.

Again as to the frequency of the right occipito anterior; every occipito anterior which rotates voluntarily to the anterior must, in the rotation, pass through the right anterior segment; so if an early diagnosis has not been made, the R. O. A. may be simply a part of the rotation from the posterior position.

In the L. O. A. position, the back of the child is to the left, and crown uppermost. The occiput to the left ilio-pectineal eminence, occurs in seventy per cent of all vertex presentations, but statistics as to the other positions are not so definite, because of the liability of confusing the primary right anterior, and the secondary right anterior which, as stated, may be a part of the right posterior rotation. The diagnosis is important because of the difficulty experienced aside from the fact mentioned of the larger arc necessary to be traversed by the head for the posterior fontanelle to come under the pubic arch. The first danger is the liklihood of extension. Making the head present by a larger diameter, even if the extension does not become complete, and convert the presentation into a face to a pubis case which will require instrumental assistance to deliver and render the prognosis grave. Perhaps necessitating symphysiotomy, and more likely become fatal to the fetus, and leave as the only alternative, having in view the maternal welfare, craniotomy. It is not within the bounds of this paper to discuss the comparative indications of symphysiotomy, Cæsarian section and craniotomy, but the methods may all have to be considered in relation with face to pubes cases where impaction is imminent.

The female pelvis may be compared to two canals which are distinct at the upper end but which coalesce into a common terminal opening. In other words, the outlet is composed of two ellipses each corresponding to the outline of the fetal head, while at the outlet there is but a single ellipse. Now the normal head when the occiput is anterior, is so nicely adjusted to a normal pelvis that the mechanical forces being adequate to the course of the labor, proceeds without interruption. If, however, the poles of the cephalic extremity are reversed—if the occiput is directed to the sacro-iliac joint, even if the outlines of the ellipse would seem to indicate that the mechanism would be the same, there is, as a matter of fact, a wide diversity between the methods necessary to accomplish the delivery. The reasons for this are, first, that the point where the head and body join is nearer the occipital than the frontal end, or even the center of the head, thus the power transmitted along the vertebral column of the child by the pressure to the breech through the uterine contractions acts, not in the medium line, but too far backward, then the parietal eminences are not properly placed with reference to the ilio-sciatic line. The short bitemporal diameter is in relation with the long pubo-sciatic diameter while the longer bi-parietal diameter is opposed to the short sacro-colyloid diameter. If the flexion is good the head may enter the brim without much trouble, but if only partial flexion exists, obstacles at once arise. If good flexion continues after the occiput has entered the hollow of the sacrum, or if the flexion is re-established

after the partial secondary extension resulting from the occiput coming in contact with the projection forward of the lower part of the sacrum and the coccyx, the rotation will ordinarily follow, as in anterior cases, but is bound to be slower.

If a satisfactory diagnosis has not been made at the first perfunctory examination, and the case drags unnecessarily, the engagement of head is slow, a suspicion is aroused that the labor is abnormal, and an effort should be made to discover the cause of the delayed first stage.

History of previous confinement will often reveal the fact of prolonged labor and still-born children. An examination by palpation shows the back turned obliquely posterior. Auscultation reveals the fetal heart low down in the maternal flank.

If the abdominal walls are thick and tense, or in case of large quantities of liquor amnii the mapping out of the fetal parts may be difficult, and in this case an examination under partial anesthesia should be made, with the aseptic hand introduced into the vagina so that the entire vertex can be completely explored. This will allow of the tracing of the sutures into the respective fontanelles and render positive the diagnosis.

Some of the causes of posterior rotation, such as disproportion between the maternal pelvis of fetal head, we are powerless to control, but a practice of measuring the pelvis of every primipara, taking only the three dimensions, the distance between the anterior spines, ten and a half inches. The crests at their widest parts, eleven and a half inches, and the external conjugate of Bardelogue, from the upper margin of the symphysis to the lower border of the last lumbar vertebræ, eight inches, will give an approximate idea of the size and form of the pelvis. Then some idea of the head can be had by pressing down on the head above the pubes, and with the index finger of the other hand internally, note the readiness of the head to engage. If it tends to enter the inlet under such pressure it is likely proportioned to rotate in the cavity.

Flexure may be maintained by the posture of the mother, placing her first in knee chest position, then turning slowly to the side toward which the occiput is to be changed. For instance, if the back of the child is to the right and the tendency of the rotation of the occiput is posterior, place her in the knee chest position on the left side, flex the thighs and throw shoulders forward, gravity will draw the fundus of the uterus to the left side of the spinal column on account of the right lateral obliquity of the uterus, thus causing the occiput to tend toward the right side and aiding anterior rotation, when the womb assumes upright position. The patient herself will sometimes assume a posture kneeling on the bed, throw herself forward. This aids flexion and descent into the pelvis is expedited.

Thé aiding of the expulsive forces and the resistance of the pelvic floor, the third of the conditions necessary for anterior rotation, suggests a variety of remedies.

If the uterine forces are deficient, some means of bringing up the nervous system is to be tried, coffee, quinine, strychnine, may be used. The hot douche, temperature 112° F., often is of great assistance. Rectal injections of chloral, occasionally a hypodermic injection of morphia to give rest to patient for the time being are found to act by quieting the labor and restoring the vigor of the pains after a lull, Anesthesia to a moderate degree may act in a similar manner. Direct stimulation by hot cloths, rubbing, pressing the head gently in the direction of the parturient canal. If restoration of occipito anterior position of head is found impractical, we weigh the choice of the methods of actual interference. The time of the labor is the absolute indication. Previous to engagement with an antero-posterior diameter above three and three-fourths inches, version is the operation. The second method of delivery demands skill and experience, hand in uterus, assistant flexion, forceps. If the head has engaged the forceps is justifiable and applied without attention to position. The forceps should be applied and maintained as nearly as possible to the sides of the child's head. Rotation is allowed to go along between the traction. We should never attempt to turn the head in the pelvis, but by using axis traction principles alternately drawing down, then releasing grasp to allow the peripheral circulation

to be restored in the scalp. Gradually mould the head and simply aid the ineffectual efforts of nature in the delivery. The tendency of forceps improperly applied to produce extension should be borne in mind and the forceps should be so approximated to keep the head well flexed throughout the delivery. If the head has become impacted and danger arises the life of the child may be sacrificed, the only operations are Cæsarian section, craniotomy. Symphysiotomy will increase one and one-fifth inches in impacted O. P., but should not be an operation of last resort, but one of early election after impaction. Of course, in case of great disproportion between the maternal pelvis and a hard resisting head occiput posterior, a living child may be delivered by conservative Cæsarian section, the results of which five per cent to forty per cent the past few years have greatly increased the chances of maternal recovery. Where there is any grave risk, however, I think the mother, if conscious, should elect which operation is to be preferred. The prognosis in occipito posterior positions is grave, being a mortality of nine as against five in anterior positions, and to the mother the risk of deep lacerations is always to be feared.

Finally it always impresses me that O. P. cases are to be dreaded more because of lack of definite knowledge of pelvimetry and accurate diagnosis by external palpation and auscultation, because the time drags by when the indications for interference are favorable and conditions arise rendering successful interference hopeless.

Therefore, the rule in treatment should be along the line of an early and accurate diagnosis, and thus of an armed expectancy on the part of the attendant practitioner.

Bryant Building.

I can not get along without the BRIEF. I think it is the best medical journal in the world, and as Gov. Hogg of Texas would say, "She is a news toater." She is full of good news every time she comes to me. I have all my BRIEFS as far back as 1887. I often refer to them for consultation.—A. C. BENNETT, M. D., Teacross, O. T.

[Written for the MEDICAL BRIEF.]

The Causes of Consumption Indicate the Use of Oils Injected Subcutaneously as a Cure.

BY THOS. BASSETT KEYES, M. D.,
Chicago, Ill.

Consumption, as its name implies, is a disease of progressive wasting, the pulmonary variety being characterized, first, by an impoverished system, due to an abhorrence or to the non-use of fats in the daily diet, which gives rise to a variety of pretubercular symptoms. The system being weakened and impoverished, the lungs are not able to gather the nutrition from the blood which is their only store for taking material necessary to their life and repair, and being organs which never rest, but are always active, even though the body sleeps, they require great nutrition for their wear, and the blood is unable to give that which it does not possess in its weakened and impoverished state. The necessary food has either not been eaten or it has not been assimilated, and the unfed, weakened, vitiated lungs, are in a condition to furnish the soil for the growth of the tubercle bacilli.

The pretubercular state or condition is caused primarily from the non-eating and non-digestion of fatty foods. If they are not digested, then subcutaneous injections of oil are indicated.

Secondly, a pretubercular condition is caused by vitiated atmosphere and indoor life, because the conditions are not favorable to the digestion of foods, and as a consequence, anorexia and loss of appetite ensue. If the patient can not eat the proper amount of fats and oils to nourish the system, then they should be injected.

I place the lack of fat foods of first importance in the production of a pretubercular condition, for the reason that the second cause produces those conditions which are of the first cause, and from the fact that by observations of man, of various climes and under various conditions, it will be seen that the non-use of a fatty diet leads to tuberculosis.

The North American Indian, in early days, was particularly free from this disease, was strong and well developed. While he is still, in the majority of cases, living an out-of-door life, he is rapidly

succumbing to tuberculosis. The reason of this is found not in a lack of out-door life, but in a lack of fatty foods in his daily diet. As a rule, they have no butter nor cream, because they are too lazy to milk a cow and perform other tasks incidental to making of butter and care of cream; they have little of the fat game which was so plentiful in their former days, and upon which they depended. Farinaceous foods, beans and the like, form the diet of most of their number, and for this reason tuberculosis gains its great foothold among them.

As a similar example, to the want of fatty foods as a primary cause of tuberculosis, may be mentioned the former cannibals of the South Sea Islands, who, some fifty years ago, were noted for their development, feats of physical strength, and endurance. They live much in the open air; their manner of habitation, as to life out-doors, has changed little or none, and certainly not enough to affect them, but their diet has changed. Formerly, they lived upon large amounts of fat meat, not alone their victims of war, but fat pork, dogs, and other animals formed their staple articles of diet. The potato and farinaceous foods were introduced, and they were educated to them until it became their principal diet, with the result that now tuberculosis is very prevalent among them.

The negro, in the days of slavery, was supplied with a plenteous amount of hog and hominy, which formed the greater part of his diet. When he was freed and depended upon himself for support, owing to the prejudice against him, the majority can find only a meagre existence, and fat foods do not enter so largely into his daily home diet. All can not be Pullman porters or waiters. His home no longer contains the plentiful supply of hog, and, as a result, we find that tuberculosis is very prevalent among the negro race, while formerly they were practically free from it.

The Esquimaux are the only people said to be free from tuberculosis. It has been the belief of some writers that this is due to the cold stimulating atmosphere in which they live, but this can not be the reason, for the foreign population are very much affected with consumption, and their children suffer greatly from enlarged tubercular glands. The solution is found in the fact that the Esquimaux lives almost entirely upon fatty meats and "toodnoo," a kind of butter made from the fat of the reindeer; on the other hand, the foreign population do not eat the extra large amount of fat which is essential for the formation of the heat of the body in the cold climate, and for the extra amount of nutrition, needed to supply the vital functions, and, as a consequence, he is much weaker, more anemic and thinner, and tuberculosis becomes prevalent among them.

The goat, among animals, is found to be free and quite immune from tuberculosis. The appetite of the goat is proverbial. Range cattle are little subject to the disease, tuberculosis, but range cows are never milked and robbed of most of the fats which their organism produces, and which, when long continued, can not fail to tell upon their constitutions. It is among old, thin cows which have been milked steadily for a period of years, that tuberculosis is general. It is for this reason, I believe, that tuberculosis is seldom or never found among horses, even though housed. They have good appetites and assimilative powers, and are thus enabled to gather and assimilate the oils from the grains and grasses, besides taking on flesh from the more circuitous process of the digestion and assimilation of other foods.

In man, the secondary cause which leads to the production of tuberculosis, is indoor life and sedentary occupations, for the reason that it is not conducive to appetite. Sunlight and air stimulate the blood cells so that they perform their functions better and assimilate more food. The appetite of the camper is well known. He can eat any kind of food and relish it, even though the food is cooked by himself or comrades, and of such a mess that he would turn away from it with disgust were he at home, will find it very good, and praises are not too high for the cook as he passes his plate for a second or third portion.

The causes, then, of consumption are those conditions which lead to faulty nutrition, generally in the habit of diet which has lowered the nutrition of the

blood, and the lungs are no longer able to maintain their vitality and balance between destruction and repair, and are no longer able to cope with the germ of the disease.

THE HABIT OF NOT EATING FATS LEADS TO THEIR NON-DIGESTION, MALNUTRITION, AND TUBERCULOSIS.

Let us question some of our patients as to whether they eat the fat from their meat, a good supply of butter, cream and oils, and what will be the result? This question has been answered before by many physicians. Consumptives do not eat fats. The habit of not eating fats may have commenced from the weaning period of infancy, and may have had its inception from the example set by tuberculous parents. We shall now see how this habit of not eating fats leads to their non-digestion, malnutrition, and tuberculosis.

Webster defines habit as a "state of anything, implying some continuance or permanence; temperament or particular state of body, formed by nature or induced by extraneous circumstances, as a costive or lax habit of body, a sanguine habit. A disposition or condition of the mind or body, a tendency or aptitude for the performance of certain actions, acquired by custom, or a frequent repetition of the same act. Habit is that which is held or retained, the effect of custom or frequent repetition. Hence, we speak of good habits and bad habits. Frequent drinking of spirits leads to a habit of intemperance. We should endeavor to correct evil habits by a change of practice. A great point in the education of children is to prevent the formation of bad habits." All of the above is said in the dictionary in defining habit, while much more is attributed to habit by those who have written especially upon the subject, considering all physiological actions of the body as originally starting in habit, which by constant repetition has become automatic and constituted a reflex or physiological action.

Habit, then, is the originator of vital action, since all vital action, and every movement of the body or thought of the mind is set into action by some reflex or stimulus, and the metabolic functions of glands are controlled by these reflex centers, which inherited are physiological, and do not require consciousness even for their existence. All this being true of habit, then it has been a means of evolution of the species, though habit, in turn, has been greatly influenced by environment, and later in man by climate, diet, and occupation, as instanced by the various tribes of savages and races modifying their development, physical growth, appearance, and ways of living. People improve or deteriorate from civilization, employment, climate and diet.

It is said that the lowest form of matter, the slime at the bottom of the ocean, has powers of digestion and assimilation. Going higher into plant life, these may be fashioned into habits. Tracing the lowest form of animal life from its beginning, we can see how constant repetitions enforced upon it by its surroundings become habitual, which has resulted in its structural modification, and the formation of a track for the controlling nervous impulse, nerve tissues being prone to repeat, since constant stimulation renders them more or less automatic, and, perhaps, changes their molecular structure, and affords a line of least resistance to the force which causes their movement, and, finally, these actions have become functional and physiological, giving rise to the nerve centers and nerve systems. Constant repetition, then, is habit, which may produce a physiological, or, if injurious, an abnormal reflex, which then becomes functional of the organs or tissues, and may, in the course of time, modify their structural form and utility. Thus, the functions of the body have all been formed by habit. It would, therefore, seem on account of the plasticity of organic materials, that habits implanted from birth, as abstaining from fats, would lead to a condition not favorable to their digestion; especially is this true of fats, on account of the manner in which they are digested.

Fats are digested in the intestine, where they are split into oils by the pancreatic juice and bile, after which their digestion is not agreed upon by all physiologists, which shows that it is not exactly understood, some believing that the fats are saponified, others that they are not; then they pass through the walls of the villi

of the intestine, if conditions are favorable. In the walls of the villi of the intestine, after a hearty meal and under normal conditions, there are many white blood cells, which seem to be in waiting to absorb these fats like animals waiting to be fed. If there never were any fats to be digested and absorbed from the intestine then the juices which are used to break up the fats would become lessened, as all digestive juices do when not called upon, as is instanced in the "faddists" who go without breakfast, and soon they have no demand or appetite for it. The digestive juices will not flow out in anticipation of an unexpected unhabitual meal, and so it is likely that the blood cells will not line up to absorb fats in the walls of the villi when there never has been any there for them to feed upon. Organs and tissues grow to the mode in which they are trained. If they are seldom called upon to digest fats they will not respond when fats are eaten only occasionally, the function becoming useless, like the blind, wingless grasshoppers, with extremely long antennæ and the blind, colorless cray fish, of Mammoth Cave; opinions being that not having use for eyes they become rudimentary and other parts of the body adapt themselves to circumstances. Man soon adapts himself to poisons, as tobacco, and when the habit is once formed the condition is hard to overcome.

People who do not eat hearty meals on account of lack of appetite, will soon become of "full habit," when they are trained to eat regular and large meals, as is instanced with the tubercular patient who, troubled with anorexia and loss of appetite, when placed upon a forced diet and made to eat a given amount, will under these conditions experience a return of appetite in a very short time. Signs drawn from the habit of not eating fats are everywhere pointing to the conditions which produce tuberculosis, prominent among them, written in very strong characters, is the blood.

The following inferences may be drawn in regard to habit as here described: That the non-eating of fats leads to their non-digestion, malnutrition, and tuberculosis. To re-establish the habit of digestion of fats and oils a plentiful supply of them should be eaten and that since in the thin anemic pretubercular or tubercular patient fats may not be assimilated in sufficient amounts to meet the imperative quick demands of nutrition, oils should be injected subcutaneously.

[Written for the MEDICAL BRIEF.]

Medical Wonders and Medical Blunders—A Story of Facts.

BY M. J. RODERMUND, M. D.,
Milwaukee, Wis.

(Continued from page 655.)

CHAPTER XVIII.

In the previous chapters were described in a plain and simple manner many of those diseases due to the obstruction of certain functions of the body. In this section I will explain the cause of some of those pathological conditions due to structural changes, such as carcinoma, sarcoma, fibroma, etc.

Although having left open one wide gap in my breastworks in the previous chapters, it seems that none of the authorities who hide behind the enormous trenches of medical ignorance and falsehood, braced up by statute laws, have taken advantage of this gap to attack the statements made. What is the trouble gentlemen? Are you out of ammunition? If so, I have plenty on hand and some to spare. But the shells I have in reserve are of still larger caliber. I will leave this gap open until I take up the subject of consumption, then will close it so as to be impregnable.

I have so far only gone along the skirmish line and drove down a good strong fact every few rods for pickets, and placed a natural law at each picket as a guard. This guard of nature will never surrender. Every individual who will not obey the picket guard must expect punishment, which is sometimes very severe. I expect the honored gentlemen, so nicely entrenched behind the assumptions, beliefs and falsehoods, peeped beyond the gap I left open and saw what they were up against. These assumptionists (authorities) have perhaps come to the conclusion that as long as they can hold their undeserved fame and feed at the public crib by occasionally sending out a beautiful

balloon filled with hot air with the firm purpose of holding a confiding public and the general practitioner off their guard by attracting their attention to this beautiful mid-air delusion, they can thus keep their own ignorance and rascality from being detected.

Occasionally a discovery of some new microbe is heralded. Then the prevention and cure of consumption is heralded in the newspapers, or perhaps a sanatarium graft is started. None of which will ever cure or prevent a single case of consumption. Then the performing of some great and new operation, such as taking out a man's heart, stitching it up, putting it back into the body, with the speedy recovery of the patient. Such magnificent falsehoods are sent through the Sunday newspapers. This, of course, tends to help the public forget the many who were taken from the neighborhood to the slaughter house (hospital) to have a healthy appendix or a healthy ovary removed, or the curettement of a healthy womb, which will perhaps result in a cancer, and before death another operation is necessary. Besides this many visits are afterwards made to inject morphine on account of the excruciating pains. Such instances I could relate by the dozen.

I do not wish to knock, I would much rather throw bouquets than bricks. I can assure my brethren that I have a benevolent design in view for the general practitioner, both in getting good results and in the financial side of the question. Both are honorable. But at the same time, I have much feeling for suffering humanity and mean to do my duty towards both. To accomplish this, I must either have the assistance of the profession or the assistance of the public. Which way will you have it? Both would be preferable. The public is ready for action. The past few years have, with the many disclosures, tempered the public about right. Do you not think it by far the better policy to come out from behind the trenches of assumption and frankly acknowledge that nature's truths have at last been found? Is this not a thousandfold better than to have the public force you out and haul you into courts and legislatures and demand of you to show what you know and what you do not know? I repeat, I had much rather throw bouquets than bricks, and the hundreds of gentlemen in the profession who know me personally can verify the truthfulness of this statement.

There are two great medical blunders that have gradually put the medical profession in disrepute among a large percentage of the public. The first, is the unmerciful abuse of the knowledge which is well known to be good and useful and also well understood. The second, is in persistently forcing upon the public, by statute laws or otherwise, false and murderous theories and assumptions as facts, when in reality we do not know a darn thing about them and we know it. The English language has been thoroughly dissected to find words to coin phrases, expressions and sentences to make it appear as though we did know, and that it had even been so demonstrated; but when such phrases and sentences are analyzed they are generally found to be meaningless and nothing but redundant verbosity. This is mingled occasionally with a fact. Like the advertisements of the so-called fakir M. D.'s in newspapers and magazines which are intended to give the reader the impression of certainty, combined with a money consideration to back up the assertions, when in reality if the advertisement is closely scrutinized, the facts are found to be the very opposite from what they seem to be at first reading.

There has been just about enough accusations and prosecutions kept up against a certain few physicians for so-called illegal and unethical practice who do not belong to or can not get into the so-called ethical bandwagon to cause sufficient discussion and disclose the fact that the ethical bandwagon can not bear the rays of the searchlight any more than the so-called quack, and in my observation and experience but few could even tolerate as much of the searchlight's rays.

This must all be changed before that class of men will be attracted into the profession who ought to be in it, and are naturally adapted and endowed with those qualities which go to make up a good physician. To be a good and practical physician commands the best of intellect and analytical talent. Not, as it is too often the case, when men who have not sense enough to run a plow or a buzz-saw take up the study of medicine, just be-

cause, as many have expressed it: "There is no business or profession upon the earth in which a man can be such a d—n fool, and the people not find it out as in the medical profession."

Gentlemen, one more point. Get out of this habit of thinking in a rut. The habit of routine means doing things without mental effort. Any effort to think is painful to the untrained mind. It is also true that habit is very often a servant as well as a tyrant. Working from or in a rut does no harm if your mind is free, active and original. Most physicians will read good and better things in journals, talk about them at conventions, but go right to the bedside and prescribe (from habit) the same old dose of quinine, calomel. I say again boys, work, work, and think, but stop thinking in a rut.

CHAPTER XIX.

THE CAUSE AND PREVENTION OF TUMORS.

In speaking of this class of diseases, I will, as in the former chapters, be concise and to the point. Some of the readers will perhaps wonder at the plain style. My object is not to bathe in verbosity, but rather to show in the simplest manner where to look for the great mystery, the cause of disease, that for so many centuries has baffled all human research. Then let the profession go to this mine of truth and prove to themselves that this great and long-looked-for vein of "Nature's mystery" lies exactly where I have located it. I have not consulted a book; in fact, I have none to consult, as my fine library was destroyed by fire several years ago. I have only written that which I have discovered during many years of experience, investigation and experiment.

In speaking of tumors I will not attempt to take up space in describing the histological structure and various classifications, divisions, and subdivisions, into which tumors are divided by the various authors. This would take a fair sized volume. Besides all the meaningless jawbreakers very often used in this class of literature are apt to loosen one's teeth. For practical purposes all can be said in a few pages in regard to the cause of these diseases.

All cancers, tumors and other abnormal growths are governed by the same law as the normal body, just as all human beings are governed by the same law, yet no two human beings are exactly alike. Neither has any one ever seen a disease of any kind that did not differ more or less in some degree from the same disease in another individual.

There is no disagreement as to what elements constitutes the human body. Yet no two persons are exactly alike. Why? simply because of the difference in the proportion of the elements. This same law holds good in the union of the ovum and spermatozoa. But if the condition should vary too much the results would be a monstrosity. "Action determined structure." Elemental and cellular action will produce certain results according to the conditions they meet. This law has no exception. By this law life is evolved. This law is admitted and demonstrated in other branches of science. By reason of this law is why different kinds of germs are found under different conditions. This law of proportion, "other things equal," makes the human being different in size, statue, sex, color, complexion and temperament. Is this not true? By the same law do we find various germs and microbes in different conditions which differ in their size, shape and motility. However, by the way, the bugologists have not told us the color of hair, temperament and complexion of these different races of microbes which exist by and under the same law.

The above being true, it knocks bugology into a cocked hat and it will take strong evidence to convince me that the men who have changed the sentiment of the world into this most injurious and murderous channel are ignorant of the facts here stated.

I mention these facts to make it clear that the germ or microbe, as in other diseases, must be eliminated in considering the cause of tumors and other growths and that these abnormal conditions are governed by the same law as the conditions we term normal or healthy. This puts the whole subject into one sentence: That under different conditions or environment, different results must obtain. A tumor is nothing more nor less than a growth which has gone beyond its physiological limits. This is all there is to it.

Cancer can be produced in any human being. I care not who he is or his exist-

ing state of health. Just as a black eye can be given to any one. But this black eye may be produced by dozens of different and varied causes.

Here again I wish to remind you of another great medical blunder. That is, in attempting to find one specific cause for each of the so-called hundreds of diseases, when the fact is the very reverse is true—there are hundreds of causes for three classes of diseases. All diseases can be grouped into three classes.

Cancers (carcinomata) start where great vascularity exists, usually about a mucous membrane. Why does it develop that peculiar growth called cancer? Because of its rapidity of growth or proliferation. What will produce this condition? Any sufficient or excessive irritation to a healthy part, or at times the parts may not be normal; then, of course, it will be more rapid in its development and growth. This condition is most often produced by injuries—local irritation, oozing capillaries, excessive determination of blood to the part, chronic inflammation, excessive sexual passions, curettement of the uterus—irritation from food, drinks or drugs. Small blood vessels which continue to bleed after an operation near mucous surfaces, such as the eye, uterus, ovary, or stomach, will have a tendency to start this proliferating phenomena. In other words, it is the physiologic process put out of its regular order that causes any abnormal growth. A small and insignificant abrasion which has not healed, when located near or upon a mucous membrane, is quite likely, if continually irritated, to disturb the capillary circulation to such a degree that its physiologic process will be put out of its regular order. Then this new order or new process has laid its little pipe lines to receive its nourishment from the blood and will form a growth of its own.

By these simple means the condition called cancer can be produced in any healthy person. Cancer can be easily produced by curetting the uterus, whether this curetting was necessary or not. I have at the present time a case under my care in which I advised about a year and a half ago that treatment was unnecessary in her case and that rest and a little advice was all that was necessary, as it was only the beginning of the menopause, and that all was in a normal condition. But she was induced to consult others who impressed upon her the seriousness of her case and the absolute necessity of an operation, which was performed, and instead of relieving her, only increased her flowing, and in the course of a year pains of the nature peculiar to cancer became manifest, and examination proved a cancer developing. Another operation was performed, but to no avail, and she is now in a dying condition. She had always been in good health and is about forty-four years of age.

The irritation of the mucous lining of the stomach by the excessive use of alcoholic drinks as an etiological factor in cancer is a well-known fact. Traumatic injuries are apt to develop into a cancer. Two cases that came under my observation some time ago will illustrate this traumatic cause. Both of the men were physical giants and had no unfavorable family history. One of the men was struck in the region of the pyloric orifice by a short-horned cow. The first four or five months he paid no particular attention to it, although occasionally feeling a little soreness in that region, but when his appetite began to fail he called in his family physician and for over a year was treated for catarrh of the stomach. When I was called to examine the case a growth could be distinctly felt, but had up to that time been overlooked. In opening up the abdomen I found the whole stomach involved as well as the peritoneum. Nothing could be done by the usual procedures. An experiment suggested itself to me, and that perhaps by cutting off a good share of the circulation of the parts involved might have a tendency to cause gradual shrinking and, perhaps, absorption. I carried out this experiment as best my judgment dictated. For six weeks no improvement was apparent; after that slow and gradual improvements followed, so much so that he enjoyed fairly good health and was able to do considerable work about the farm for three years afterwards, after which I lost track of the case.

In the other case the party was thrown from a wagon and received an injury in the lumbar region, but it did not trouble him very much for nearly two years except occasionally a little soreness which

gradually became worse. He had been treated for stomach trouble for more than a year, before I was consulted. I found on opening the abdomen that a large tumor had formed, but was retroperitoneal. I accomplished no good results in the case; the man succumbed in three or four weeks.

In one other case of cancer of the stomach I tied off some of the blood vessels with good results.

I mention these two experiments for the reason that it may suggest a method which, in my judgment, gives better results than cutting out the growth, which every one knows is of little or no benefit.

The object in writing this chapter is, if these simple little causes were better known and better understood by the public, many cases could be prevented.

It is not necessary to take up space in describing sarcoma, fibroma, and osteoma, etc., as the law and principle is the same in each. The point to be especially emphasized is that any cause, irritation, injury, or whatever it may be that will put the physiological process out of its regular order sufficiently to disturb the capillary circulation and direct the blood into new channels, will result in an abnormal growth and its particular location gives the tumor its different form from which it derives its name.

CHAPTER XX.

LEARN TO ESTIMATE PHYSICAL CAPACITY.

To know how to estimate our physical capacity, to understand the law of balance and proportion, to understand the various conditions of the atmosphere and their effects upon the functions of the body, to know the effect of our own acts upon the body, are four points that include everything that pertains to health, the cause of disease and how to prevent them. Compare these four pillars with the four fundamental pillars upon which the practice of medicine and the cause and prevention of diseases have been built the past century. These are vaccination, contagion, quarantine and the germ theory. The first four will stand the test forever and are based upon the unimpeachable laws of nature, and every test will prove their correctness; their obedience means health and long life. Their disobedience means sickness, misery and premature death. The last four are the idols worshiped today, and are based upon no more truth than the idols worshiped by the heathens. They are beliefs and falsehoods, atrocious in their involution, and impressed upon the public as scientific facts, and are forced into obedience by obnoxious laws; but are gradually causing ruin and destruction to mankind.

The medical profession will never regain the confidence of the public that the true physician deserves, until it discards these four inhuman monsters. Mark my word, you will have to accept them either willingly or by compulsion, if I must do it alone, the principles of nature to which I have so strongly called your attention and apparently received with such indifference it would almost shame the devil and his masterpiece. After eight years of begging, pleading, and writing, it seems almost incredible to me not to receive the active support of a single man in the profession. Yet in my inquiries along these lines for years I have the first man to find who did not privately deny what he publicly supported in the strongest terms, and have the unadulterated gall to impose these murderous principles upon the public.

To go back to my text again, is it not as plain as the noonday sun that this law of disproportion, resulting in the unbalanced differences of each individual, is caused by the abuses of the creative laws and false social and economic principles, and the cause of so many and varied conditions we call disease, which in former times were unknown? Is it not a fact that the capacity of the body is in nearly all cases no stronger than this weak part compared with its other parts? Is it not also a fact that the inclination of each individual is to gratify or bring into action his strongest physical and mental characteristics? Under these circumstances is it not almost certain that the weaker parts will give way many years before the capacity of the stronger powers have even begun to wear out?

This principle of disproportion of the human body is becoming more and more marked in each generation as civilization and disease advance at the same ratio. Then from nature's standpoint civilization is retrogression and not advancement. We must begin over, and advance civil-

ization in harmony with nature's laws. Then we can increase our physical capacity in balanced proportions from generation to generation. When this is done civilization will really exist in its true meaning. Our present-day habits, fads and fashions give such popular stimulus to the public that they will continue to undermine this law of balance and weaken the capacity and endurance of the individual. This is the chit and tap root to explain the word, "resistance," which is so much used to express an idea which is not understood. The word "immunity" is also explained by this law of balance and proportion.

Civilization of the present day is an unnatural condition created by man, and not in harmony with nature; therefore, the public must be educated in such a manner as to make it possible in these unnatural conditions for them to live a natural life in harmony with nature. The abuse of the creative laws with other wrong habits is the cause of the stunting and the deteriorating of the constitution of man and his inability to resist certain conditions which would not have the slightest effect upon the individual, whose capacity is reasonably well balanced.

I only call attention to these points in order to have them thought about, as in my next article I will begin the crowning of the principles of the previous chapters, and when I have finished I will have constructed a solid and indestructible foundation both for the benefit of the medical profession and the public, as to the cause of disease. Upon this foundation will be built a structure so strong and of such capacity that it will contain truth enough for all mankind living and yet to be born, and establish forever the true principles of nature for the evolution of the race to physical giants and the gratifying pleasure of enjoying good health and a long life. Yet, no doubt, each generation will add finishing touches which will decorate this structure with bits of knowledge that will add pieces of furniture to beautify science, add intelligence and pleasure to mankind, and glorify the Creator whose laws man has finally learned to understand, conquer, and obey.

For all practical purposes this disproportion of the structures and functions of the body may be divided into three great classes of temperaments, the mental or nervous temperament, the vital temperament, and the motive temperament.

I wish to emphasize the fact, for the practical lesson it teaches, that in order to judge correctly of a person's health or disease we must take into account, as one of the most important factors, the constitutional condition. I was threatened to be kicked out of college, when a student, for making this statement, but experience has verified its truthfulness. In the future many of the now called normal disproportions will be considered abnormal.

In the first fifteen chapters, I explained the cause of those diseases (epidemic diseases) which are the most dreaded, both by the public and the physician. I explained in no uncertain terms that these so-called awful and dreadful diseases were the simplest, the least harmful and the easiest to be managed of any diseases that man is heir to.

In the articles to follow I shall take up that class of disease due to the constitution of man. This, the most important subject of medical science, has been the most neglected; in fact it has been ridiculed at every turn by the profession whenever mentioned. Until investigators and medical teachers will begin to think seriously about those diseases due to the constitution of man, medical science is a farce, which will remain so, and is absolutely of no benefit to mankind. The public would be infinitely better off if no physicians existed upon earth, as their false education is misleading and enormously interferes with the regular workings of natural law, causing so many modifications of the most singular and interesting character, resulting in the disproportion of the temperament and constitution of man. China, Japan, Turkey, India and others are strong evidences.

Everywhere it is becoming plainly evident that the higher the organization and the greater the culture the more numerous and wider are these individual differences, and the more numerous are those diseases due to the constitution of man. The disease standing at the head of this class is consumption, and I will clearly show that no greater humbug and injurious fallacy was ever invented by human brains than the present humbuggery, fraud and deception played upon the gen-

eral practitioner and the general public in the diligent efforts now being made in regard to the cause, prevention and treatment of consumption. It would almost seem that humbuggery was our vice and besetting sin. It appears to be in the very air we breathe, and take to it as natural as a duck takes to water; even our social system seems to be saturated with it, and manifestly a close affinity exists between the social and professional humbug.

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(To be continued.)

[Written for the MEDICAL BRIEF.]

Pneumonia.

BY JOSEPH D. HARRIGAN, M. D.,
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(Continued from page 661.)

Prof. Flint in his "Practice" stated that the mere exposure of the mesentery to the air caused inflammation of it, the air acting as an irritant.

The exposure of a partly eaten apple to the action of the air results almost instantly in a chemical change taking place.

It is easy enough to understand how the air can act, when the body is overheated, to produce a chemical change in the blood circulating through the lungs in a manner similar to these changes mentioned.

Taking the initial chills or chilly sensations into consideration we find nothing more reasonable than to expect them to be the first notes of alarm of an internal disturbance of molecular harmony.

In some part or other of the body the molecular arrangement has been disturbed and we have a congestive condition set up, the part affected determining to a certain extent the nature of the disease, as well also our choice as to its nomenclature.

These chilly sensations are due to an interference with the proper circulation of the animal electricity through the nerves, this being brought about either (1) directly by the sudden coolness contracting the nerve tissue, abruptly disarranging the molecular harmony of the cells and preventing the proper performance of their functions as carriers of electricity, or (2) because of the congestion developed in internal parts from local irritation (inhalation of acrid air, etc.), this diminishing the proper supply of blood to the surface and so crippling the electricity-carrying function of the nervous system.

It would seem therefore if this reasoning were correct to expect to find a chill from outside cold or from inside congestion.

But while a chill must cause some congestions internally the latter may result from internal agencies such as inhalations of irritants, interference in the circulation of the blood from various causes, etc., without a chill.

To the chilling of the body can be ascribed many other internal congestions beside pneumonias.

Pleuritic, nephritic, peritonic, arthritic inflammations, etc., can and do result from this surface chilling.

It is impossible to conceive how congestive conditions of internal organs and structures can be avoided after such chilling. It is but a step from this congestion to inflammation and then we have the disease in full swing.

The localization of this congestion and consequent inflammation is determined by so many varying circumstances, such as condition of the organs at the time of attack, points of least resistance, intensity of the attack, activity of various factors in the matter, etc., that it is impossible to go into details concerning them in this article.

An incident in the experience of a colleague of the writer's is interesting in connection with this matter.

By the capsizing of a boat in the East River not long ago three men were given a ducking.

As a result of the wetting and exposure one of them was prostrated with pneumonia, the second had an attack of pleurisy, and the third developed acute articular rheumatism.

Now, it seems far more reasonable to consider that the same chilling and exposure in each case produced congestions in all the internal organs, as well also a changed chemical condition of the blood, making itself felt even in the tendons and ligaments of the joints, with localizations occurring in certain parts due to each

one's idiosyncrasies, weak points, etc., than that "germs" had anything whatsoever to do with the matter.

No one surely can deny that a chilling of the body must produce congestions in various internal parts of the body, and that certainly if this condition is not relieved promptly that there must result inflammations.

Now, this inflammation, to my mind, is nothing more nor less than a disturbance of harmony of the molecules of the parts, interference with the proper motions of the molecules, resulting in a derangement of nutrition, function, etc., emigration of white corpuscles, and all the other effects of a diverted activity.

The activity inherent in each and every individual cell must have an outlet, and if not permitted to continue its occupation of helping towards the maintenance of the health of the body, of its upbuilding, etc., it is diverted towards the creation of other materials which we call pathological and which we speak of as the product of inflammation.

The whole process is physical, chemical and electro-chemical, the products teeming with other life-endowed chemicals, viz., bacteria.

The variety of bacteria found will depend upon the variety of tissue affected.

Naturally, as the different parts of the body vary in chemical constitution the resulting living products of their disintegration, *i. e.*, of their chemical metamorphosis, must also vary.

In this way we can have bacteria developed from inflammatory lung tissue differing in marked degree from the bacteria from other localities.

Because bacteria are found in cases of pneumonia does not mean to say that they are the cause of the disease.

That they play their part as secondary agents in the great transformations occurring in pneumonia as well as in other diseases is certainly undeniable, but we can not permit them to completely monopolize our etiology, even going to the extent as they do of excluding those natural forces which the studies of physics and chemistry lead us to expect to find taking the principal part as prime causes of disease. We might just as well exclude the force of gravity as a factor when a man falls and breaks a limb as to eliminate from the etiology of pneumonia physical and chemical forces together with derangements of them, which bring about the various disturbances that can be very readily recognized and appreciated by even those with a very limited knowledge of physical and chemical laws.

Taking into account the different ways in which an attack of pneumonia is ushered in we might, from the various accounts in the history of these attacks, deduce the following conclusions:

1. That an inflammation of the lungs is not always due to the same cause.

2. That a surface chilling of the body can inaugurate an attack by bringing about a congestion of the lungs.

3. That the same result can ensue from direct local irritation of the delicate lung tissue from the inhalation of irritant chemicals either in the form of gases or in fine powder.

4. That a similar condition can ensue also from the inhalation of cold air, as well also from the ingestion of cold drinks whilst the body is in a superheated condition.

5. That any dyscrasia of the blood whereby a transudative condition is possible in the various organs or an exudative condition of the blood itself is developed, also is apt to and does bring about a congestive and inflammatory state of the lungs.

Under this heading would come all pneumonias consequent upon tuberculous, scrofulous, scorbutic, syphilitic, variolas, rubeolous, influenzic, and a dozen other constitutional affections.

6. A depressed state of the nervous system consequent upon worry, anxiety, loss of sleep, lack of proper nutrition, irregularity in eating, etc., with constant attendance upon a sick member of one's family, are also sufficient to produce a stasis of blood in the lungs, and consequent inflammation.

Hence, it is not surprising that a second member of a family is sometimes stricken whilst waiting upon one already ill from pneumonia.

In this connection the exhalations from the patient in the sick room, I have no doubt, play a most important part.

But it is not necessary to fly to germs to explain this.

The oxygen of the sick room being burned up by the patient, far more quickly than by a healthy person, the attendants are usually compelled to breathe an atmosphere most depressing and devitalizing.

It is not merely the carbonic acid gas that we have to deal with, but other positively poisonous emanations from the whole body.

Just as in health there are natural odors pertaining to all animals, human animals as well as those of the lower creation, so in disease we have other gaseous emanations that, absorbed by the system, certainly must act as so much poison.

We must also reckon upon the shock to the nervous system of others in a family when a member is stricken down with pneumonia. The circulation of the animal electricity through the nervous system is impaired, the tonicity of the vessels is lessened, with stagnation of blood in the lungs, as well as in other organs, resulting.

7. Traumatic, embolic and various other forms of pneumonias of a circumscribed nature might be dwelt upon as illustrating most vividly the operation of purely physical and chemical agencies, as well as those of a pronounced electrochemical form, but in order to do them justice it would require volumes.

As it is, the subject of this article being a very broad one, it has been incumbent upon the writer to express himself, perhaps, a little too briefly and in too superficial a manner possibly to be entirely understood.

Deprecation of the almost total neglect of the agencies mentioned throughout the article as prime causes of pneumonia with the hope of awakening a considerable interest in the matter looking towards results in the future that will far eclipse past researches on similar lines, have, however, prompted the article, and in submitting it to the profession he feels himself amply justified.

668 Lexington Avenue.

[Written for the MEDICAL BRIEF.]

"Tuberculosis, Its Prevention and Cure."

BY L. HERBERT LANIER, M. D.,
Martinsburg, Mo.

I shall offer no apology for inviting your attention to a subject which has been studied and discussed from every conceivable viewpoint by physicians, scientists and the leaders of the intellectual forces of every avocation in which human beings are engaged, and while it has commanded and received the entire attention of many of the brightest minds that ever graced this mundane sphere, yet there remains problems concerning such vast importance, that nearly all of the inhabitants of the entire world who have reached the age of sound reasoning stand ever alert to grasp the new theories concerning its etiology and treatment as they issue from the pen of the army of educated scientists who have chosen the study of this disease as their life work.

I shall attempt to give you some idea of the destruction this hydra-headed monster has accomplished. It directly causes the death of more than one-seventh of the total death loss to the entire world. It has caused more human misery, poverty and loss of life than all the wars of all ages, and as false and unfounded as the foregoing statement may appear, yet it is a serious truth which I would to God that I might from Alpine heights proclaim, in such stentorian tones that every inhabitant of the universe hearing it might by virtue of the first law of nature, "self-preservation," be sufficiently alarmed to be ever ready to lend all the assistance possible to the noble benefactors who are engaged in an effort to annihilate the greatest curse with which the world has ever been afflicted.

Does it not seem strange that historians should enthusiastically, by research in literature and extensive travel, attempt to give an accurate account of some calamity that occurred thousands of years back, a knowledge of which profits us nothing in this progressive age. I beg them most earnestly and sincerely in the interest of the hundreds of thousands of the white-plague sufferers in the world today to make their efforts in this direction worthy

of a better cause, that of learning the prevention and cure of tuberculosis, as the leading members of the medical fraternity know it, and disseminating this knowledge broadcast over the world that those suffering from, or predisposed to, this heretofore intractable malady may triumphantly cast off the death sentence imposed upon them by this disease, and as cured individuals occupy a conspicuous place on this world's panoramic stage as living monuments to the fame and memory of those who, by scientific research, were, after many years, enabled to offer a universally acceptable solution of this problem, which has puzzled the master minds of all ages until the beginning of the last decade.

What further evidence would be necessary to overcome the incredulity of the laity concerning the curability of consumption than to see the philanthropists who, in their misguided judgment, so generously endow educational and other institutions which benefit only those who can easily do without the assistance of these pseudo-benefactors, establish sanatoria and hospitals for the care of the unfortunate individuals who are suffering with tuberculosis.

There are thousands of poverty-stricken tenement dwellers who are suffering with tuberculosis who never inspire pure and unadulterated air, who are imprisoned from the sunlight, who never have nutritious and health-giving food to eat, and who are not able to employ a reputable physician and pay for the medicines prescribed.

Strange, indeed, that our broad-minded and generous philanthropists have overlooked these unfortunate individuals (especially when their number is so great), when devising a plan to expend a few hundred thousands for a so-called charitable purpose.

But be it said to their desire for self-aggrandizement they place it where it will give for them the most notoriety as great benefactors.

The familiar saying that one-half of the world does not know what the other half is doing forces me to conclude that very few of those who are financially able to donate large sums of money for charitable purposes are availing themselves of the excellent opportunities that at present exist.

Fifty thousand dollars judiciously spent in erecting a sanatoria for the care and treatment of tuberculous patients who can not afford to travel to a more favorable climate, including three hundred and fifty or four hundred acres of land surrounding the buildings, the cultivation of which would make the institution almost self-sustaining, and afford the necessary exercise for those able to work, while the more serious cases could inhale pure air and warm their paternaturally cold bodies in the sunlight from the skies above, nature's antidote against the morbific phenomena caused by the tubercle bacilli.

I reaffirm that such a donation by those philanthropists who are establishing public libraries, colleges, and similar institutions would cause for them more gratification and result in obtaining the good will of more people than would be possible in any other manner.

Tuberculosis is an infectious disease, caused by the bacillus tuberculosis, resulting in the deposition of tubercle in the lung structure, which, in turn, undergoes ulceration and softening, which results in a septic infection characterized by progressive failure of health, fever, cough, emaciation and exhaustion.

Causes.—It is questionable if an individual is born with pulmonary tuberculosis but makes his advent with tissues that are a congenial soil for the growth and ravages of this wide-spread germ.

Amongst the acquired causes are syphilis, alcoholism, chronic nephritis, certain occupations, and living in damp and overcrowded, dark and badly ventilated locations, debility following influenza, predisposes to tuberculosis.

Tuberculosis is found in every inhabited country of the world. It is the most widespread of all maladies, attacking human beings at all ages as well as domestic and even cold-blooded animals.

In sheep the disease is comparatively rare. In pigs it is common; horses are rarely attacked, but by conservative estimate I place the percentage of cows affected with it at 10 per cent. This being very important, since we derive from this class all the milk and nearly all the

meat used for food. In fowls, also, it is an extremely common disease.

Not less than two hundred thousand deaths occur annually in the United States due to consumption, and I firmly believe if we had laws compelling every physician to report to the State Board of Health of their respective States, every death caused by it we would find this estimate far too small.

May we hope that all physicians will soon be required to report the occurrence as well as the death of all afflicted with infectious or contagious diseases. Under such circumstances our statistics would be reliable, and serve the purpose of showing the laity in general what excellent results have been accomplished in recent years by hygienic fresh air and sunlight treatment of consumption.

The following is interesting:

In 1890 the tuberculous death rate was 245 per 100,000 of the population; the average annual mortality from tuberculosis of the lungs during the five years, 1900 to 1904, inclusive, was only 172 per 100,000. The crusade against this disease is having excellent results.

The diminution of pulmonary tuberculosis in Massachusetts is remarkable, the death rate having fallen from 42 per 10,000 inhabitants in 1853, to 21 per 10,000 in 1895. This remarkable reduction has taken place in many other States where the medical profession have been successful in interesting the legislators sufficiently to influence them to appropriate fifty or a hundred thousand dollars for the purpose of building a State sanatoria for the modern treatment of tuberculosis.

The prevention of tuberculosis is a subject ever pregnant with interesting facts, and one which, sad to say, has not been given the attention it deserves by the profession or the laity.

The trite old saying that better an "ounce of prevention than a pound of cure" can not be more applicable to any disease than that of tuberculosis.

Notwithstanding the public have been remarkably apathetic in manifesting any interest in the prevention and cure of this disease, yet there is nothing in the dictionary of pathologic phenomena, a knowledge of which would be as universal in its influence for good, and as potent in combating this, our most formidable foe. And lest any should be guilty of criminal negligence let all unite in learning the hygienic principles which, when properly adjusted to our environments, will result in annihilating forever from our midst this, the most universally dreaded of all diseases.

There is no individual who has regularly attended a public school, until they have finished the study of its curriculum, who can offer any reasonable excuse for not having acquired sufficient knowledge of hygiene to assist very materially in conserving their health and preventing this disease.

Physiology is another study second to none in importance, a knowledge of which is absolutely essential to the enjoyment of good health. The casual observer may inquire as to what relation the study of physiology and hygiene bear to the prevention of tuberculosis. And to those who do not know, I want to state with the most profound emphasis that practically nothing can be accomplished until the people as a whole are educated upon these subjects.

To prevent the development of tuberculosis in those who are predisposed to it by heredity or by having been a victim of some constitutional malady, or by reason of unhygienic environments, it is necessary to conform to a system which, summarized, embraces regular habits, daily baths, deep inhalations of pure air, nutritious food, well-ventilated rooms, day and night. The sunlight should never be excluded when accessible. The pernicious habit of kissing, so prevalent among women at present, should be discouraged, and instead of bringing the labial surfaces in contact with those of another, kissing on the cheek should be substituted, or, better abolish this relic of paganism altogether.

To those not accustomed to manual labor, an hour each day spent in a gymnasium, even though it be of necessity in the attic or basement, will prove the best investment to both sexes at all ages.

When a case of tuberculosis develops in a family, the rest of whom are apparently healthy, the physician should have a card to give them with printed instructions to be followed by the patient, which

would prevent any of the others from subsequently becoming a victim of this disease through lack of proper precautions to prevent it. There is no doubt about the efficaciousness of this method, and that physicians have been sadly negligent in conforming to this idea is mentioned that it may serve to impress them with the responsibility of their position and thereby increase interest in the present day world-wide campaign against tuberculosis.

A card of rules and information concerning tuberculosis similar to the following, if given to every tuberculous patient by the attending physician, would accomplish more in limiting the spread of this disease than the plans usually followed in this country and abroad.

INFORMATION TO BE GIVEN TO THE PATIENT:

Don't expectorate into earthen or metal cuspidors, rags, ashboxes, or anything else except paper cuspidors which, containing an antiseptic substance (chlorinated lime) should be burned after using.

Don't kiss anyone (especially children).

Don't go out for a walk or drive without paper cuspidors to expectorate in, and burn them when you reach home.

Don't occupy a room which has a carpet, window curtains, or furniture of any kind except iron bed, table and two chairs.

Don't think that medicines alone will cure you. Medication plays a minor role in the management of tuberculous patients.

Keep your windows open every day in the year.

Live an out-door life as much as possible, that you may enjoy the benefits to be derived from fresh air and sunshine—the natural antidotes of the tubercle virus.

To those who reside in the country: Remember that the feces and urine should never be emptied closer than twenty-five yards of the well or cistern, and then in a hole in the ground from one to two feet in depth. Chlorinated lime should be liberally sprinkled in the hole after each vessel has been emptied into it.

Every tuberculous patient should have his own plate, knife, fork, spoons, cups and glasses, and never, under any circumstances, should another member of the family use them, for carelessness in this way is responsible for half the cases of consumption that we have to treat.

No one should sleep with an individual after a diagnosis of incipient tuberculosis has been made by the attending physician.

The bed, which should be a good mattress, ought to be aired and exposed to the sun, if possible, at least three days each week. The sheets and comforts should be aired daily. A creolin solution should be sprayed about the room each morning.

The patient, if a man, should be clean shaven at all times, while the hair should never be allowed to grow very long. The patient should be told not to pick at the nose with his fingers, or use the fingers to pull away tenacious mucus which adheres to the lips, as the fingers and finger nails become contaminated with the tubercle bacilli, and prove a source of danger to friends who shake hands with the patient.

Now, what has been said concerning the management of a case of incipient pulmonary tuberculosis was for the purpose of preventing those who necessarily have to nurse or live in the same house with a patient suffering with it from becoming infected through disregard of the preventive measures here outlined.

We will now assume, since the patient and family have been made aware of the gravity of their situation, that we can confidently rely on them for their earnest co-operation in managing the case until our rewards for our efforts will be the gratification a physician usually experiences when he cures a patient for whom no one else entertains any hope. For, indeed, such a favorable termination will be the inevitable results if all concerned have truly co-operated with the physician. And if they fail to do this, all the efforts of the physician to cure his patient will only serve to prolong the life of one whose soul must soon return to the God who gave it.

The diagnosis of consumption in its incipiency, is essential to its successful management, and far too many cases are allowed to progress too far before the physician recognizes the unmistakable signs of this malady.

The physician, however, is not always responsible, as I have known a few cases to go until there was cavity formation

before consulting a physician, and many there are who, being lured into a sense of false security by the glowing array of advertisements and testimonials scattered broadcast by patent medicine concerns, purchase and take these nostrums until death is inevitable, and no physician at this stage of the game can do more than alleviate their pain, and watch them pass away.

And when I make the statement that pulmonary tuberculosis is a curable disease I am presuming that the patient who has it has gone to a reputable physician when the first symptoms characteristic of this disease are manifested, and that the patient has not allowed the druggist to prescribe for him some remedy not at all adapted to his disease.

The curability of consumption depends upon a recognition and modern treatment of it in its incipiency, and I wish to enumerate a few symptoms, the appearance of which should always cause a physician to regard as being pathognomonic of tuberculosis, if not actually assuring him of its existence:

The bodily conformation of those prone to consumption, or the "habitus phthisicus" so accurately described by the Father of Medicine (Hippocrates), should be considered by the physician where this condition exists. The scapulæ have the appearance of wings, the chest is long, narrow and flat, with depressed sternum, the body is tall, the clavicles are very prominent, and indisposition to work is noticeable.

While it is important to keep the above facts in mind, the fact that many individuals with perfectly well-shaped chest, annually fall victims to the disease, must not be forgotten.

Therefore, the experienced diagnostician will not err by looking for signs of the disease only in those who seem to possess a predisposition to it.

The various forms of pleurisy bear an important relation to pulmonary tuberculosis, as proved by statistics from recent observers whose authority is international.

And since we have learned that most primary pleurisies are of tuberculous origin, then we will remember that pleural pain, stitch in the side with a dry cough, with marked friction sounds on auscultation, are the initial phenomena in many instances of phthisis.

Henry Bowditch, of Boston, says out of ninety cases of acute pleurisy in his practice thirty-two died of phthisis, a percentage large enough to indicate what an important role tuberculosis plays in the etiology of this disease. Osler, than whom there is no greater living authority, says he had in his wards thirty-two to die with tuberculosis out of one hundred and one cases presenting themselves for treatment with the various forms of pleurisy.

Therefore, the necessity for a thorough physical examination should be recognized by physicians, especially where the symptoms of incipient tuberculosis are veiled by the predominance of symptoms of some intercurrent disease.

A chronic bronchitis, especially one which has been neglected or treated with cough "nostrums," bought of the druggist, appearing in those with a tubercular diathesis, and lasting more than two years, will, in 90 per cent of all cases, terminate in the severest form of pulmonary tuberculosis.

Those suffering with catarrhal affections of the upper respiratory passages, who have had influenza, and who have a dry, hacking cough accompanied by general debility, will become victims of tuberculosis in 60 per cent of all cases.

Alcoholism, syphilis and nephritis should be considered, not only for their potency in predisposing those suffering from them to tuberculosis, but as serious complications when occurring simultaneously with or subsequently to an attack of this disease.

Assuming that the attending physician, by exercise of his diagnostic skill, has detected the presence of tubercular manifestations before cavity formation or extensive consolidation of lung tissue has taken place, or before the exhaustion caused by night sweats, hemorrhage or excessive coughing has left the patient beyond responding favorably to the treatment so efficacious in the incipiency of this disease.

I will now outline the treatment which, if given to patients from the inception of this disease, conjoined with earnest cooperation of the patient (will, if no complications occur), result in an absolute

cure as is possible to follow the invasion of the human organism by a constitutional disease.

The modern treatment of pulmonary tuberculosis comprises prophylactic, hygienic, educational and dietetic measures, such as hydrotherapy, climatotherapy, ærotherapy, rest cure and exercise, and personal hygiene, remembering that medication plays a minor role in the management of tuberculous patients.

First enlist the co-operation of the patient by following the instructions outlined when speaking of the prevention of this disease. You must also assure your patient that there is no special climate which can be regarded as a condition *sine qua non* in the treatment of this disease. While the benefit to be derived from a change of climate is very evident (provided each case is individualized and sent to that climate best adapted to the case), yet the haphazard method of some physicians in recommending a certain locality for all cases can not be too forcibly condemned.

When we consider that we have three distinct climates: Marine, dry and mountain climate, all benefiting some cases, but not all benefiting all cases, the importance of a proper selection is apparent.

The advantages of sanitarium treatment are supervision of the patient and enforcement of the principles of the treatment. Home treatment may be successful, however, in the city, in the country or at the sea shore. The country is preferable, of course.

The underwear should be thin wool, warm stockings and sufficient outer garments to keep the patient comfortable, the patient should never sleep in any garment worn through the day.

The diet should be liberal, as to quantity, such as meat, boiled fish, eggs, oysters, cereals, bread, butter, potatoes, milk, salads, soup, honey, coffee, tea, chocolate, whisky, wine, extract of malt, mineral water, and ginger ale.

Fats should be taken in large quantities for their high caloric value in the shape of butter, fat meat, emulsion of cod liver oil, but, unfortunately, those who possess a tuberculous diathesis display a marked antipathy to fats of all kinds. The glycerophosphates of soda and lime increase weight and add strength.

It is best to eat several times a day, and not to eat too much at a time. A few drops of dilute hydrochloric acid will aid digestion. The bowels must move at least once each day.

Where possible advise your patient to live a tent life in country, concerning which Caille says it increases the appetite, improves nutrition, cough disappears, night sweats cease, sleep improves, weight increases, the temperature falls, the tendency to take cold diminishes, and I want to ask what more can be desired?

Creosote should not be given until ammonium sulpho-ichthiolate three drops, in capsule, twice daily, and tinct. nux vomica and hydrochloric acid, five drops of each, in water after meals, combined with dietetic and hygienic methods, fail to check the progress of the disease.

Creosote, however, remains our most valuable drug in checking the spread of tuberculosis in the tissues. Where the beechwood creosote disagrees with the stomach, the carbonate of creosote may be given. It may be given in capsule, pill form or in milk. The dose is from one to six drops four times a day.

Cough.—A cough is nature's effort to expel an irritant. The patient should endeavor to inhibit a dry cough by will power. When the cough is harrassing, particularly at night, a dose of morphine (gr. ¼) may be given, or the following:

℞ Acid Hydrocyan. Dil.....24 drops.
Potass. Bromid..... 2 drachms.
Camph. Tinct. Opii..... 4 drachms.
Chloral Hydrat..... 2 drachms.
Spts. Frumenti..... 1 ounce.
Syr. Aurantii.....ad.....12 ounces.
M. Sig.: Tablespoonful when necessary to check cough.

Pain.—Pain in the chest can be relieved by applying a water-bag, a mustard or cantharides plaster, or dry cups.

Hyperidrosis may be relieved by giving equal parts tinct. belladonna and aromatic sulphuric acid in fifteen-drop doses three times a day, or by having the patient rest over night in a coarse linen shirt wrung out in cool water, with sufficient blanket covering to avoid chilling.

Fever.—Hydrotherapy is the treatment par excellence. Sponging the body with cool water is preferable.

Insomnia is always annoying. First try a cool sponge bath. Should this fail, a glass of strong beer will sometimes produce sleep. In obstinate cases drugs must be employed, such as chloral hydrate and potassium bromide, of each ten to twenty grains.

The management of hemorrhage from the lungs is as follows:

Ergotine by hypodermic injection and an antipyretic; ice bag over affected lung, cool drinks, fluid diet, rest in bed, hypodermic of morphine (gr. ¼) if patient is unduly excited.

According to Flint, pulmonary tuberculosis offers a more favorable prognosis as to duration of life where accompanied by bleeding, than when this event is wanting.

And if this information is conveyed to those who have experienced a hemorrhage it would serve to dispel the gloom and depression of spirits which usually characterizes their existence and stimulate them to entertain a hope of becoming cured, without which your efforts will avail you nothing.

[Written for the MEDICAL BRIEF.]

Tuberculosis Among the Jews.

BY OSWALD KATZ, M. S.,

Boston, Mass.

During my junior year at the Long Island Medical College the Faculty assigned sections of juniors and seniors to assist the work of the association for prevention of tuberculosis on the east side of New York. Enthusiastic, we went right in the midst of the battlefield and found conditions so fearful, so full of misery, that it is hardly possible to describe them. The dispensary was located on Attorney street, with four physicians, five students and two nurses in charge.

Between sixty and one hundred patients came daily for treatment and advice, and about eighty to one hundred house-calls were made by the whole staff during the day and night.

In a Delancy street tenement house I found a family of eight occupying two rooms. The family consisted of the father—a garment worker in the last stage of tuberculosis—six children and a woman, who took care of the motherless flock. Those eight people slept, worked and ate in those two little rooms—one facing the street with two windows, the other having one window facing a dark air-shaft. The front room was used as a general living room, workroom and bedroom at night; the second room did service as kitchen and bedroom. According to the latest tenement laws no garments are permitted to be manufactured in living rooms, still the tenement inspector would or could not, enter the private rooms of the tenants. The oldest of the children worked as a baker apprentice; he earned about $2.50 per week; then there was a girl about thirteen years old, she assisted the father in the garment work, getting sixty cents for one dozen boys' pants. It took her eighteen hours to work out a dozen. The father, sick as he was, earned about $5.00 per week.

My first visit was on a Saturday. I found the rooms rather clean, this being due to the Sabbath day. The father felt very bad during the night, and so one of the children came to the dispensary asking that a doctor be sent to her father, who "sits up the whole night and spits blood." I found the patient painfully crouching around in the room. It was a case in the last stage of tuberculosis, with a high temperature and rapid pulse and frequent hemoptysis. I could do nothing but give small doses of codeine to relieve the suffering.

The boy, who worked as a baker, asked me to examine him, as he coughed a good deal. It did not take me very long to diagnosis the case as phthisis, and I took the boy with me to the dispensary. Dr. C. Lenase, the chief of our staff, confirmed my diagnosis; a sputum slide was made and sent to headquarters; the return came the next day—positive.

In certain tenement houses we found as many as fifteen to twenty cases among forty families.

Our dispensary did a noble work day and night. Doctors, students and nurses labored among those unfortunates; my heart cried out for my suffering people. I was the only Jew on the staff, but every one of them did the work nobly, regardless of race or religion.

Very little medicine was used; all those who had good chances of recovery were

sent to the Jewish T. B. Hospital, Bedford, or if they could not leave their homes we did our best in improving conditions. The chief object was to prevent tuberculosis, and all of us were in constant communication with the tenement inspectors. Many improvements in regard to light and space were made. Every incipient case received special attention. The nurses made daily calls among those who could not come to the dispensary; they distributed pamphlets in the tenements and reported every new case to the office.

Soon the college demanded all my spare time and I had to leave my work, to which I shall return immediately after graduation.

One of the students died a short time ago, he having contracted phthisis during his service in the dispensary, but of course that certainly shall not discourage us; we are not here to think of ourselves, but of those who demand our services.

[Written for the MEDICAL BRIEF.]

Cantharidin.

BY GEO. H. CANDLER, M. D.,
Chicago, Ill.

I have read Dr. King's inquiry in the BRIEF: "Did you ever give one three-thousandth of a grain of cantharidin in a nice white granule or pillet form? Did you ever give it to a patient?" Why, bless your heart, Doctor, of course we have given lots of cantharidin to patients in one one-thousandth of a grain, one three-thousandth, one five-thousandth of a grain (for that matter in even larger doses than the first named quantity), and, up to the present moment, this writer, at least, has never seen the slightest effect upon "the heart or nervous system," although as a matter of course the latter must be to some extent affected if the amount of drug given exerts any physiological action at all. Bear in mind, Doctor, that cantharidin is rapidly absorbed into the system and is eliminated unchanged by the kidneys. Irritation of the genito-urinary tract is the one marked symptom, accompanied, of course, occasionally by more or less sexual excitement. Toxic doses of cantharides would exert a very different influence upon the system, setting up intense gastro-intestinal distress. The tincture, for instance, is an extremely dangerous preparation; ten to fifteen minims of this cause strangury, burning in the throat with sense of intense constriction, the stomach suffers next and vomiting occurs, the vomited matter consisting first, as a rule, of the contents of the stomach, then bile, stained serum and mucus, finally blood appearing.

Any work upon *materia medica* issued within the last five years will give you a lucid description of the action of cantharidin. One one-thousandth of a grain of cantharidin will certainly not cause "any derangement of the heart or nervous system," and it would take a great many doses of the quantity mentioned to produce any result which would be appreciable to the observer. The smallest quantity (one five-thousandth of a grain) has, however, a most beneficial action upon the genito-urinary tract, especially in senile cases where constant dribbling of urine is present. Cantharidin has a special action upon the capillaries of the kidneys, as has been proven by administering small doses to animals for prolonged periods and then examining these organs. Cantharidin must be regarded as a very potent drug, especially suitable for exhibition by the dosimetric method. In too large doses it would unquestionably cause gastro-intestinal or genito-urinary distress, but Leebrich gives one six-hundred-and-sixty-seventh to one one-hundred-and-sixty-seventh of a grain, and the writer has given one one-thousandth of a grain of cantharidin three or four times daily without any but the desirable results being noted. It would be impossible to exactly dispense one one-thousandth of a grain (or less quantity) of cantharidin by ordinary methods. It must, of necessity, be dispensed "in a nice white granule or pillet," and if the Doctor has been using a reliable preparation the quantity of the drug he mentions would exert a positive remedial influence upon the genito-urinary tract, but would certainly not in any manner appreciably influence "the nervous system or heart."

1195 Lyman Avenue.

[Written for the MEDICAL BRIEF.]

Modern Treatment of Appendicitis Viewed From a Practical and Scientific Standpoint.

BY WM. PROTZMAN, M. D.,
Lincoln, Neb.

The treatment of appendicitis is not only an interesting but a grave question for both physician and surgeon to determine. In arguing this subject I shall not attempt to substitute mental suggestion for surgical remedial efficiency, neither do I claim to be an erudite in medicine, philosophy, or metaphysics, or that I am possessed of a cogitative mind that is implacable or malevolent toward any one who honestly disagrees with me in the treatment of appendicitis. I shall endeavor to confine my arguments to the fundamental principles of scientific medicine, verified especially in a practical experience during the last twelve months. I shall first take up the anatomy of the appendix, a worm-shaped tube from three to six inches long that is attached to the lower and back part of the cecum in the right illiac fossa; its diameter is about the size of a goosequill, is lined with a mucous membrane, dotted with solitary glands, covered by a fold of peritoneum, communicates with the cecum and is guarded by an incomplete valve; its structure is similar to that of the bowels, with the exception of the arrangement of its muscular contractive fiber; it secretes a muscus that passes through the incomplete valve into the cecum, where it mixes with the contents of the ascending colon and disappears. It is supplied with blood vessels, nerves and lymphatics. Its function will be for future generations to determine. Inflammation of the appendix involves the same physiological factors found in all other inflammations, regardless of the etiological factor, exemplified in pain, heat and swelling, caused from dilation of the capillary vessels that are crowded full of blood with a corresponding construction of the arteries caused from want of oxygen in the blood and tissues. The want of oxygen changes the vascular endothelium and impairs the vascular walls that make them unduly permeable to fluids. The normal amount of oxygen in the arterial blood is about twenty per cent, while the venous blood contains about twelve per cent. Now, then, when from any cause the oxygen is reduced below the normal, carbon dioxide is increased, a condition that causes a sluggish circulation in the capillary vessels that stimulates the irritable factor of the arteries and dilation of the capillary vessel that causes congestion, effusion and inflammation. There are two forms of appendicitis, viz.: Catarrhal and suppurative inflammation. In the catarrhal form we find the mucous membrane of the appendix inflamed and infiltrated with serum, the lumen contracted, its peritoneal covering congested and adherent to neighboring tissue, but without general peritonitis, abscess or perforation, while in the suppurative form the lumen of the appendix is filled with pus and serum involving adjacent tissue infiltrated with pus and serum that causes general peritonitis, abscess and sometimes perforation, and when from any cause the secretion of the appendix is locked up from obstruction of the cecum will cause congestion, inflammation and suppuration that may require surgical interference. The "Fad" theory that appendicitis is always caused from grape, plum, cherry and other seeds, that causes people to quit eating grapes and other fruit with seeds, etc., is not only a physiological absurdity, but indefatigable nonsense; in proof of this assertion, we find the base of the appendix at the lower point, its body and apex directed upward and inward, held in position by a fold of peritoneum; then how, let me ask, can seeds twice the size of the diameter of the appendix gravitate upwards into the lumen of the appendix and cause inflammation? We are also told that the appendix is a useless organ that can be removed with impunity, etc. If that is true does it not look very strange that when God made man that he placed a worthless gland in his body, held by a fold of peritoneum only for a punishment? But if it was put there for a purpose and we remove it we lose the purpose for which it was created.

In the treatment of appendicitis we find a wide difference of opinion among physicians and surgeons. We find a class of modern surgeons who claim to be veritable authority, that tell us that both the acute and chronic forms should be op-

erated on as soon as the diagnosis is verified and surrounding conditions favorable. They condemn food, water and cathartic remedies until about four days after the acute pain has subsided on account of the great danger of exciting peristalsis in the bowels. And if water is used must be given by teaspoonfuls merely enough to moisten the tongue; if nutrition is given, by injection only into the rectum, not over two ounces, and not over two inches into the bowels, also on account of causing peristalsis, and with this positive injunction not to give any cathartics whatever only by injection.

A majority of our surgeons in every college, city, town and county advocate the above treatment, and advise the operative procedure. It does appear to me, according to physio-pathological reasoning, that the indiscriminate operations for nearly every case of appendicitis is a disgrace to the noble profession of surgery; is getting to be a veritable "fad" in every section of our country, echoed by boys on the street, "Have your appendix taken out." Is it because we are ignorant of its function that it is destroyed with impunity, or is it on account of a rich fee? Is it not also a fact that the gravity of appendicitis is very often intensified for the purpose of getting an operation? We are also warned against food of every description, only by injection, not over two ounces, just within the sphincter ani. Here let me ask why attempt to give the patient any food if it is so very dangerous? I answer, you are making people believe that you are doing something to support the patient's life. Food stimulates the physiological resisting powers of the body that strengthens and quiets the mental forces of the brain, and supports the body and nervous system against mental and physical shock; it supplies the blood and tissue with oxygen, the want of which is one of the contributing causes of congestion and inflammation. We are also warned against water, H_2O, that restores oxygen to the blood and tissue that causes a free circulation, that vivifies the function of every gland and tissue in the body, that thins the blood and relieves congested capillaries. And last, but not least, I will take up the physiological effects of cathartic remedies in the treatment of this grave disease. We are warned and forewarned by modern surgeons against the use of cathartics, etc., on account of exciting peristalsis. The surgeon is very careful with the aseptic and antiseptic conditions of the room, sponges, hands, knife, water and the patient's abdomen; yet he will thrust the knife into the abdominal cavity when the bowels are filled with fecal matter swarming with bacteria, pathogenic microbes, toxines and ptomaines, and where portions of the fecal matter are absorbed by the blood vessels and lymphatics and carried to every gland and tissue in the body (worse than a privy vault), and when the cecum is crowded with foreign matter that prevents the secretion of the appendix from escaping into the bowels, one of the primative causes for purulent inflammation of the appendix, instead of grape, plum and cherry seeds. Now then, after concluding my criticism on modern views and treatment of appendicitis, I am ready to place myself upon the witness stand for interrogatories, etc. First, within the last twelve months I have treated forty cases of appendicitis, nineteen of those were advised by their family physician or surgeon to have an operation, giving them but a short time to live without. These nineteen patients fell into my hands unsought for, but whom I treated without the loss of a single case, as well as twenty-one other cases, making forty cases. Second, everyone of those forty cases got nutrition, water and cathartics by the mouth, and in every one of those forty cases I found the following prodromes, viz.: Indigestion, torpid liver, and constipation of the bowels. Every case got from two to three grains of calomel with pulv. ipecac and bicarbonate of soda, followed with from a tea to a tablespoonful of sulphate of magnesia, to evacuate the bowels thoroughly. I also allowed them milk and predigested food in moderation, as well as water. I used applications, wrung out of hot water every fifteen or twenty minutes, for thirty-six hours or more if necessary. I used an opium preparation in teaspoonful doses to quiet pain and without constipating the bowels. But I hear a voice saying: "Why, Doctor, your cathartics, water and food will excite peristalsis and increase the inflammation of the appendix." Very well, sup-

rose it will increase peristalsis, etc. I am inviting and imitating the physiological laws of nature instead of allowing poisonous matter to remain in the bowels that obstructs the normal function of every gland in the body, the hot-bed for swarms of bacteria, toxin and ptomaines, with other excrementitious matter poisoning the blood and every tissue in the body. Here permit me to ask, what physiological proof is there, if any, that the appendix is affected directly from peristalsis, considering the arrangement of its muscular fiber? I answer, there is none. Peristalsis is the only means by which the bowels are relieved of fecal and poisonous matter, more especially the cecum in appendicitis that obstructs the passage of the appendix and its secretion that causes suppurative inflammation. The abdomen is a "Pandora's box" for the surgeon's knife with the greatest aseptic and antiseptic precautions as I have already stated, such as the operating room, the surgeon's hands, knife, clothes, water and abdominal walls of the patient, also the physiological condition of the blood, glandular system and constipation of the bowels. But what do we find in the daily operations by some of our modern "up-to-date" surgeons? I answer, the physiological conditions of the blood, glands and constipation of the bowels are ignored, when poisonous matter from the duodenum to the rectum must not be disturbed for four days after the operation; neither is a patient allowed water or food only by injection (?) But I am asked what good I expected to receive from the use of calomel (Hg. Cl.). I answer, to stimulate the liver for its antiseptic bile and to lubricate the mucous membrane of the bowels. Second, I give the ipecac for lubricating the mucous membrane and for its action on the liver. Third, I give bicarbonate of soda for its oxygen and alkaline properties. Fourth, I give the sulphate of magnesia for its cathartic properties. Fifth, I give an opium preparation to control the pain without constipating the bowels. Sixth, I use hot-water applications over the bowels every fifteen or twenty minutes for thirty-six hours or more, if necessary, to constrain the capillary vessels of the inflammation and to ease the pain. Seventh, I give water for its oxygen and vivifying effect upon the blood and tissues of the body. Eighth, I use milk and predigested food to support the vital powers, etc. But I hear a voice saying: "Those forty cases that recovered without an operation were a miragic delusion, a strain of the imagination that did not require an operation." (Not unlike nine out of ten that are operated on and with three or four deaths). Yet those nineteen out of the forty cases were diagnosed appendicitis by as competent physicians and surgeons as you can find in any city the size of Lincoln, with its fifty or sixty thousand inhabitants. But I again hear the echo of a thousand voices from St. Louis, Louisville, Cincinnati, Chicago and New York, exclaiming: "That doctor from Lincoln, Neb., is an antiquated Cardofagi, living on the great American desert where they have nothing to eat but jack rabbits and corn, in the same little town where W. J. Bryan lives, etc. Why, that doctor don't know as much about modern surgery as Bryan knows about politics." Very well, my dear "up-to-date" doctors of the modern east. I hope you will allow me to climb to the summit of Mount Nebo, where I can get the records of the school of Alexandria and study the doctrines of Esculapius, Hippocrates, Socrates and Aristotle and view the beautiful valley of the Nile, the river Jordan and where the children of Israel crossed the Red Sea, pursued by Pharoah and his host, while modern surgeons at home are thrusting the knife fearlessly into the abdominal cavity with a loss of only about thirty per cent of their cases. And now, in conclusion, after my return from Mount Nebo, with the records of the Alexandria school in my pocket, I find great advancement in surgical operations of the appendix. I find an article on my desk from Portland, Ore., where a man by the name of W. M. Jackson was operated on by Dr. M. E. Hockey, when the next morning after the operation the patient ate a hearty breakfast, and the following day resumed his usual business as if nothing had happened (?) (The food didn't kill him, either). Now, then, this new and wonderful operation (?) has ameliorated my position very much, and that causes me to say that I am not opposed to surgical operation of the appendix or any other organ of the body, when necessary to be performed, by competent surgeons, but I

do condemn grave operations of any kind, more especially of the abdominal cavity, when unnecessary, by competent or incompetent surgeons for public notoriety or "rich fee." Also, that there is not one in forty that requires an operation. Good night.

[Written for the MEDICAL BRIEF.]

Narcolepsy—A Suggestive Reply to Dr. Norwood.

BY PATRICK T. MELDON,
An Experimental Medical Scientist,
San Bernardino, Cal.

This case may or may not have been a true and typical form of narcolepsy. The patient was not quite twenty years old. Had a good constitution, never tasted intoxicants and was of good and regular habits. In standing on the edge of a bridge he, in a careless way, lost his equilibrium and fell down a distance of eighteen feet. He landed on his head, on soft earth, but from the force of the impact he hit backward, his back coming in contact with a small, smooth and rounded rock which had merely protruded through the soft earth. The result was a slight contusion on the right side of the spine and against the tenth dorsal vertebra. A companion, who was with him at the time, ran to the end of the bridge and down to his assistance. He found the boy already fast asleep and snoring loud enough to be heard at a distance of sixty feet. Doctor J., the family physician, soon was in attendance and then another physician was called for consultation, I being courteously accepted to watch the case for what I might learn. Dr. J. liked to hold consultations, yet he was determined to follow his own ideas and rule the roost professionally, and a little bit haughtily. It was his strict order to keep the patient thoroughly aroused and at any cost. The consulting physician agreed to that and retired from the case. Sleep had a terrible hold on the boy, it was impossible to shake it off. And at best constant and vigorous shaking merely kept him in a semi-conscious state for six days and nights. During that time he took semi-liquid food, acting, while taking it, like an automaton or somnambulist. His bowels acted well, but he could not urinate.

On the sixth day he showed signs of complete exhaustion and from that on, during the next six days, efforts to arouse him were as vain as efforts to arouse the dead. The treatment seemed absurd to me at the beginning and now it seemed cruel. But I was not there to advise, to resent what was done nor to express an opinion. On the second day I asked Dr. J., "What would be the result, Doctor, should you let him sleep on and sleep it out?"

"He never, never, never would wake up," the Doctor answered instructively. I had already concluded differently. I had concluded that the injury was only a slight shock to the spinal cord and could be quieted and cured by uninterrupted sleep. On that conclusion I had decided on how the case should be treated, if to heal it consistently.

Sleep is the curative influence of the mind over the body. It is, we may say, an imaginary man who handles the drug that does the work. It is the controller of nervous shock and the builder and repairer of the system. During the long and strong sleep of the child the body grows; when sleep fails the body dies. Plants grow most during their sleep. The morning glory grows remarkably from the time its flowers close in the evening to the time they open in the morning, the time of conscious wakening.

From the first to the twelfth day I remained with the case almost constantly. And during that time I kept Dr. J. well informed on every change or suggestive action I had noticed in the patient. But the Doctor gave only passive heed and made no attempt to act accordingly. On the evening of the twelfth day he gave orders to let the patient rest, and said: "I expect he will last only till sunrise in the morning."

Then I asked, "In what way do you think such a slight injury could have acted so fatally?"

"The contusion," he answered, "though slight, caused an extravasation and developed a morbid condition. It was absorbed by the spinal cord and reached the cerebral cortex and suspended consciousness. * * * There never is any hope in these cases." That seemed like a very logical conclusion. And for the time being it greatly confused the idea of treatment I had evolved and fondly en-

tertained. But as the Doctor went out I stepped out with him, explained to him how the case seemed to me and told him the remedy I would like to try. "It would not do," he said, "it would kill him now, and it would kill him even had it been tried in the start."

"How could the contusion have instantly developed a morbid condition and suspend consciousness," I began to think, and while thus thinking the Doctor had vanished.

The Doctor was a well-learned man, yet he was not reflective, and on that account I sadly concluded there was no hope for me to make a beneficial experiment in this particular case. To my surprise, however, he soon returned and anxiously said, "Meldon, let us try your idea, it can do no harm now and probably it can do some good. If it does I—" Just what he was then in the act of saying I did not wait to hear, for I left in a hurry to prepare the following enema:

℞ Solid Ext. of Beef, about .....3 grains.
Nor. Warm Water.....1 ounce.
Tinct. Opium.....6 drops.

This enema acted quickly, in twenty minutes the patient was breathing deeply, his inspiration strong and expiration long; his pulse rate gained about five beats per second. In about thirty-five minutes he vigorously turned from his left side onto his back and commenced audible sonorous breathing. The enema was given him about 6:30 in the evening and perfect quiet enjoined, it being maintained all through the night. About three hours after sunrise next morning he suddenly sat up in bed and consciously asked: "What is the matter with the Fourth of July, everything is so quiet?" He had been rendered unconscious on July third.

[Written for the MEDICAL BRIEF.]

Non-Operative Treatment of the Urethra, Prostate and Neck of Bladder.

BY GEORGE WHITFIELD OVERALL, M. D.,
Chicago, Ill.

Having noticed of late a growing interest among physicians to learn of some non-operative means of treating chronic diseases of the urethra, prostate and neck of bladder, I submit herewith a very simple, efficient and inexpensive instrument for the purpose. It is not only useful in the treatment of these diseases, but takes the place of endoscopy in the great majority of cases.

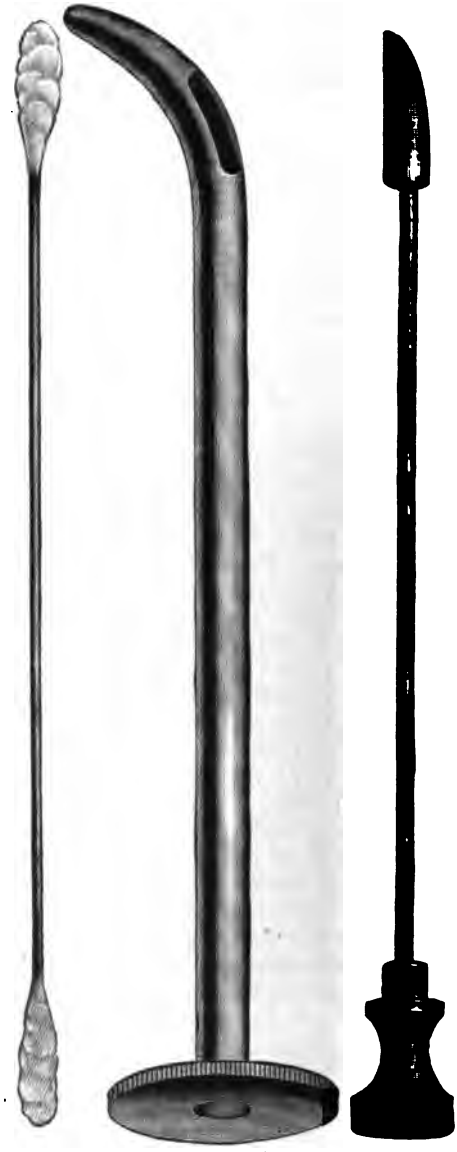

FIGURE I.

Fig. I illustrates the instrument which consists of a bent conical tube with fenestrated opening at its lower extremity; obturator and wooden applicators, on which absorbent cotton is fastened to each end.

Fig. II illustrates the instrument in use. As the ulcerated surface is almost always on the floor of the urethra, and in the prostatic part, the tubular part with obturator in position is passed until the conical end enters the neck of the bladder.

The tube may be moved little at a time, first deeper, then withdrawn, until blood is detected. The other fresh end of the cotton is then immersed in whatever medicine one wishes to use, and applied directly to the ulcer. A five per cent solu-

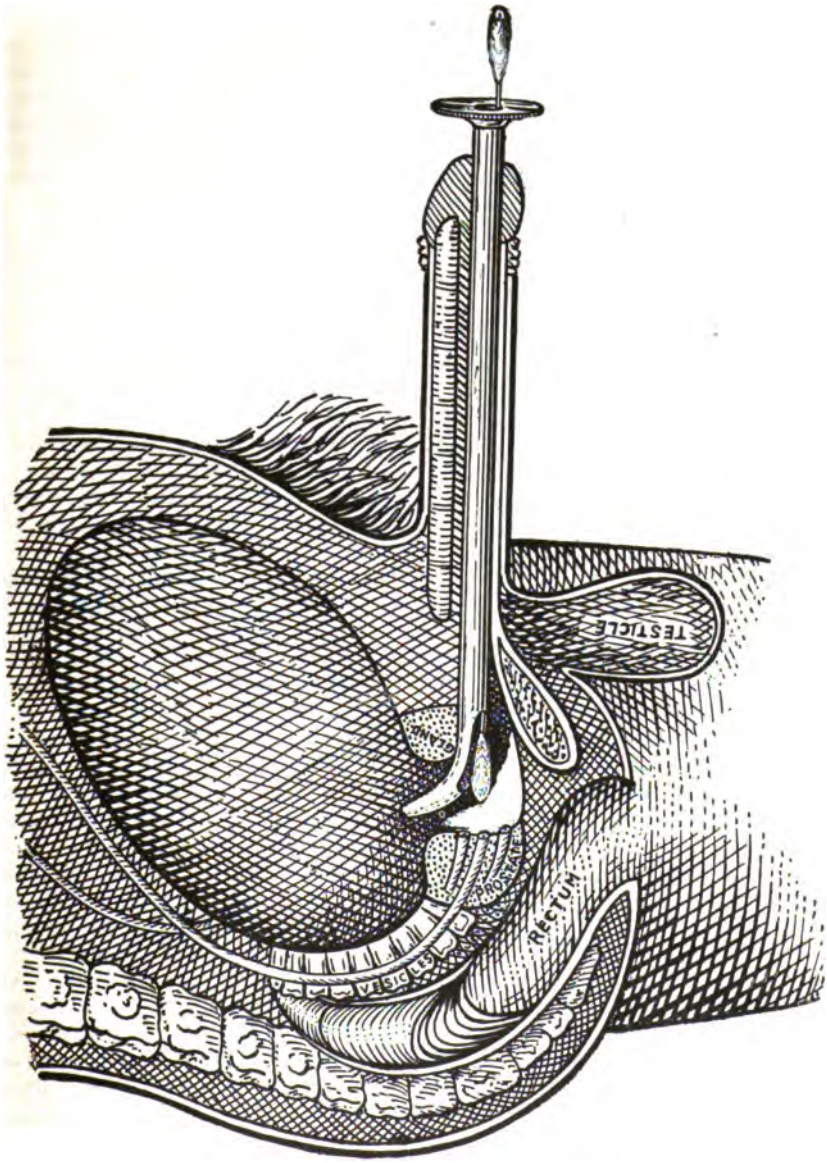

FIGURE II.

The obturator is then withdrawn and cotton applicator inserted. This is withdrawn and viewed at different times; when bloody mucus appears on the cotton, it is evident an ulcer appears at the fenestrated opening in the instrument.

tion of thallin sul. is an excellent remedy. I never use nitrate of silver, as the ulcer readily yields to this method of treatment in the large majority of cases.

The acute symptoms should always be allayed before making the application,

when cure may be effected without pain or inconvenience.

The large majority of cases of so-called "gleet" (the *beté noiré* of the profession) is simply an ulcer at some part of the urethra—more frequently the prostatic. It is impossible to use injections sufficiently strong to cure the ulcer that would not set up a urethritis or cystitis; but, when a local application can be made directly to the ulcer and not to any other portion of the canal, it readily yields to treatment. There is one other important point, to prevent the medicine being smeared along the urethra in withdrawing the instrument, a fresh piece of cotton is applied to absorb the excess that might remain within the instrument.

[Written for the MEDICAL BRIEF.]

Greek Terms in Medical Language—A Preliminary Collection.

BY DR. A. ROSE,
New York City.

(Continued from page 507, July Issue.)

Acrasia, *ἡ ἀκρασία*, bad mixture; *ἀκρασία ἀέρος*, unhealthy condition of the air; *ἡ κρᾶσις, εως*, the mixture; the opposite of *ἀκρασία* is *εὐκρασία*.

Acrates, *ἀκρατής, ής, ές—τὸ κράτος*, the strength, *ἀ* priv. not strong, weak. Latin impotens, *γῆρας ἀκρατές*, senile debility.

Acratisma, *τὸ ἠκράτισμα, ατος*, the breakfast; *ἕως ἀκρατίσματος ὥρας*, during the breakfast hour.

Acratocholus, *ἀκράχολος, ος, ον*, irritated, restless; *ἀκρατόχολος*, said to have been used by Hippocrates, but I can not find it in Greek literature.

Acratoposia, *ἡ ἀκρατοποσία*, the drinking of unmixed wine.

Acrea, *τὰ ἀκραῖα*, the extremities (of the body); *ἄκρος, α, ον*, the extremity, the most elevated point, the summit, the surface; *ἀκρατροφή*, excess of nutrition; *ἄκρον ὕδωρ*, surface of the water.

Acribometer. By this term is understood an instrument for measuring minute objects, the correct translation, however, is an exact measure; *ἀκριβής, ής, ές*, exact, careful; *ἀκριβῶς*, adverb, exactly.

Acridophagus, *ἀκριδοφάγος, ον — ἡ ἀκρίς, ίδος*, the locust; *φάγω (ἐσθίω)*, to eat, locust-eater.

Acrisia, *ἡ ἀκρισία, ἀ* priv. *ἡ κρίσις εως*, the decisive moment. Acrisia means an irregular course of a disease, one in which no crisis occurs, an unfavorable crisis.

Acristochromasy. This is an impossible word, is probably meant *ἀκριτοχρωμία*; *ἄκριτος*, indistinguishable; *χρωματισμός*, action of painting.

Acroæsthesia (a better word would be acræsthesia). This by R. Arndt introduced term intended to signify exaggerated sensibility in cases of hysteria is superfluous since *ὑπεραίσθησις* wrongly given as hyperæsthesia is quite sufficiently explicit.

Acroasis, *ἡ ἀκρόασις, εως*, the hearing, or paying attention to something, the use of the sense of hearing in the diagnosis of diseases.

Acroblast, *ὁ βλαστός*, the germ; acroblast is Kollmann's term for that part of the germinal membrane of the embryo which gives rise to blood vessels filled with blood and probably connective tissue; *ἀκρόβλαστος*, blooming at the extremity of the stem.

Acrobystia, *ἡ ἀκροβυστία*, the prepuce (circumcision (?).

Acrocephalia. Broca has given this term to a deformity of the head in which it is increased in the vertical diameter, and more or less pointed or conical at the top.

Acrocheir, *ἡ ἀκρόχειρ, ειρος*, the forearm, but also the points of the fingers.

Acrochordon, *ἡ ἀκροχορδών, όνος—ἡ χορδή*, the string (of gut), a small polypus of the skin, especially of the eyelids, with a long pedicle hanging down like the end of a string of gut.

Acrocinesis (recte acrocinesia), like the term acræsthesia coined by R. Arndt. He means to designate by it an increase of the ease, freedom and completeness of the normal muscular movements, as one of the phenomena of hysteria, more definitely stated as hypercinesia hysterica.

Acrocolia, *ἡ ἀκροκωλία, τὸ ἀκροκώλιον*, the extremities of the body, especially of the lower animals, including the snout, ears, trotters, etc.

Acrodynia, *ἄκρος, α, ον*, being at the extreme end, at the summit, the highest point; *τὰ ἄκρα κῶλα, ἡ ὀδύνη, ης*, the pain. Synonyms: Mal des mains, et des pieds, erythema epidemicum. Acrodynia is an epidemic disease which was first observed in Paris in the years 1828 and 1829, and afterwards also in other places, resembling

ergotism and pellagra. The disease begins with gastric troubles, followed by erythema which commences at the extremities and often extends over the whole body, associated with formication, numbness and violent pains in the extremities. The cause of this affection is not known.

Acromania, *ἀκρομανης, ες*, being quite insane.

Acromasthium, recte acromatium, *τὸ ἀκρομάστιον, ὁ μαστός, οῦ*, the breast; acromastion, the nipple. Synonym: *ἡ θηλή ῆς.*

Acromegalia, *ἡ μεγαλακρία* or *μεγακρία—μέγας, μεγάλη, μεγα*, large; [enlargement of the extreme ends; (*τὰ ἄκρα*), a disease described first by P. Marie. Morbid gigantic growth, an affection which begins generally in youthful or middle age, developing slowly. Hands and feet become larger, more plump and deformed, the joints of the hands and feet as well as the forearms and legs increase in diameter, then the face becomes disfigured, the nose enlarged, also the tongue and the lips. The inferior maxilla projects, whereby the face assumes a long oval form. The etiology of this disease is yet unknown. Anatomically have been found hyperplasy of the brain and of many nerves, especially of the sympathicus; constantly present were hyperplasy of the hypophysis cerebri; changes of the thyroidea, persistence and hyperplasy of the thymus gland (Erb).

Acromia, *ἡ ἀκρωμία*, the point of the shoulder. Synonym: *τὸ ἀκρώμιον, ὁ ὦμος*, the shoulder.

Acromicria. The correct Greek term would be *μικροκωλία* (*τὰ κῶλα—τὰ ἄκρα*), *μικρός, ά, όν*, small, little. Acromicria is a term proposed by Stembo for an affection resembling sclerodactylia, he designates by this term shortening of hands and feet, following ulcerative processes.

Acromyle, *ἡ ἀκρομύλη*, the patella. Synonym: *ἡ μύλη, ης*, which otherwise means grinding, and also a grinding or mill stone; *μύλη*, is also the name for molar tooth, otherwise called also *ὁ μύλος.*

Acronychia, *ἡ ἀκρονυχία* or Acronyx, *ἡ ἀκρόνυξ, νυχος*, are unfortunately chosen names for extremity of the nail, they both mean the beginning of the night. The Greek word for extremity of the nail is spelled *ακρωνυχία*, adverb *ἀκρωνυχί*, adjective *ἀκρωνυξ* or *ακρώνυχος*, having nails, claws, hoofs, weapons, etc.; *ἡ νύξ, νυκτός*, the night; *ὁ ὄνυξ, υχος*, the nail.

Acropathy, *ἀκροπθία, ακροπαθής, ες*, or *ἀκρόπλους, ουν*, swimming on the surface of the water, traversing the surface. Hippocrates. Galen.

Acropis, *ἡ ἀκροπις, ίδος*, the tongue (Hippocrates). Some writers understand by this term insufficient or incontrollable mobility of the tongue, causing impediment of speech, disorder of the movements of the tongue; *ἀλλ' αἱ διαφ. γραφαὶ εἰσιν ἀμφίβολοι*, there is indistinctness, difference among the authors. This term should be abandoned.

Acroparæsthesia, *παρὰ*, towards; *αἴσθησις, εως*, the sensation. Acroparæsthesia is a term given by Fr. Schultze (Deutsche Zeitschr. f. Nervenleiden, 1893) to a complex of symptoms characterized by painful paræsthesis in the hands and fingers, seldom in the feet. The pains appear mostly during the night and in the morning, and are associated with sensation of stiffness. This affection occurs mostly in women during the climacterium, but happens also in men. The sensibility is, as a rule, normal, and there are no changes in the color of the skin. The cause of the disease is unknown. There is either vasomotoric neurosis (Nothnagel) or neuritis.

Acrosapes, *ἀκροσαπής, ες*, rotten on the surface; *σήπω*, to rot.

Acrothymion, *ὁ θυμός, οῦ*, the thyme, a pointed wart, so called on account of its resemblance to the flower of thyme.

Acrotismus, *ἀκροτησία* or *ἀκροτία, ἀ* priv. *κρότος*, the sound, the choc, the noise made by beating. Pulselessness.

Actinogramm, *τὸ ἀκτινογράφημα.* Actinogramm is one of those terms coined outside of Greece, which the small boy in Greece even recognizes at once as incorrect, as impossible. In a German medical lexicon of recent date, is given the following explanation of the word actinogramm: (*ἡ ἀκτίς, ῖνος*, the ray; *γράφω*, to write): the name for photographic pictures made by means of Röntgen rays. The compound, however, is *ἀκτινογραφέω, ῶ*, not *ακτινογράφω*, therefore, *ἀκτινογράφημα*, not *ἀκτινογράμμα.* Indeed, *γράφω*, means to write; *τὸ γράμμα*, is a written thing, a letter; *ἡ γραμμή*, the line; *τὸ γράμμα* or *γραμμάριον*, the grain; actinogramm can not be translated with written or drawn by rays; the only correct word is actinographema. We can not say telegram in Greek, because this would have no sense, it would not mean what we

understand by this word, the Greeks say *τηλεγράφημα* from *τηλεγραφῶ*, *τηλεγράφω*, is impossible.

Actinomyces, *ἡ μύκης*, *ητος*, the mushroom, a ray mushroom discovered by Bollinger, named by Harz, occurs at the maxillæ of cattle, and is characterized by ray form arrangement of in fork shape, distributed in club form swollen filaments which all proceed from one center; this mushroom is the cause of the incorrectly named actinomycosis (*ἀκτινομυκήτησις* is the correct name). When first discovered in cattle, the tumor formed by it was taken for osteosarcoma. Israel, Johne and Ponfick found the disease in men. In cattle it causes swelling in the region of the maxillæ, with extensive phlegmonous suppuration and metastatic abscesses in different organs.

[Written for the MEDICAL BRIEF.]

The Need of Dental Instruction in the Public Schools.

BY DR. O. C. COLBY,
Hillsboro, Ill.

The dentist who makes a close study of conditions as they are presented in the regular routine of every-day business, can not fail to be forcibly impressed with the fact that the cleanliness of the mouths, presented for examination and treatment, have been sadly neglected; especially is this the case with the mouths of children from six to sixteen years of age. The mouth, not having the proper care, becomes very unclean, and affords a place for the lodgment and growth of all kinds of disease germs which are carried into the body while eating and drinking, thus, the whole system is endangered, while, if the mouth receives the care it should, the child is not only adding to its appearance and comfort, but to a great extent it is protecting its body from infection. If you ask why the mouths of the little ones are so neglected, I would say, it is either thoughtlessness or ignorance on the part of the parents. The remedy is to educate the children that they may take the same care of their mouths and teeth that they do of other parts of the body. If the mouth is unclean, all food taken into the body is contaminated; if the teeth are in bad order, the food will be improperly masticated, and when it reaches the digestive organs it will be poorly digested.

In order that children may know the necessity of keeping the mouth clean and the teeth in good repair, it seems to me that the public schools should devote at least one hour each week in each grade to dental instruction, this time to be filled by some progressive dentist who would instruct the pupils in the proper use of the tooth brush and silk floss, and impress upon them the necessity of caring for their teeth.

Many large factories have a house dentist who looks after the teeth of the poor working class, and why do they go to this extra expense? Simply because they know that a person with poor teeth has a poorly nourished body, and is not able to do as good work nor as much of it as one whose body is properly nourished.

The public school is supposed to fit the pupils for the battles of life. Why stuff the brain and neglect the rest of the body?

I hope the day will soon come when boards of education will recognize the need of dental instruction in the schools.

[Written for the MEDICAL BRIEF.]

Cholera Infantum.

BY M. B. TULLER, M. D.,
Gibbs, Ky.

I have chosen the above subject because from now until October this disease will largely engross the attention of physicians. It is not necessary to enter into a discussion of the pathology of the disease, as we will all agree that it is gastro-entero-colitis. But there are some phases, (and their treatment) not truly cholera infantum, but custom in the profession and among the laity has classed them as the same and I shall not depart from the said custom.

There are three causes for the summer complaint of infants which I wish especially to discuss, and they are:

1. Congestion, active and passive, of the mucosa of the alimentary canal from the stomach to the rectum.
2. Worms.
3. Indigestion.

The two former causes will certainly produce indigestion, and the last mentioned will as certainly produce passive congestion, and predispose to active congestion.

Given a case in which the child has sour-smelling eructations and irregular, undigested stools, and there will be a sensitiveness to atmospheric impressions, such as sitting in drafts, or becoming uncovered at night, or exposure to dampness; in short, whatever chills the surface will develop an active, violent, possibly fatal, congestion. The diagnosis of the condition is very important as having the main bearing upon the treatment of the case—the pathologic condition within being what the physician desires to correct. A little patient, in apparent usual health, is suddenly seized with violent vomiting, followed by ineffectual retching, with great prostration, rapid, shallow breathing, coldness and probably dampness of the surface, and small, tense, rapid pulse. Here the sudden seizure, the condition of the skin, the character of the respiration and pulse, denote a severe internal congestion, and the vomiting and retching point to the stomach as the seat, and unless relief comes the death of the little patient from exhaustion is but a few hours off at most. In these cases the temperature is subnormal except in those cases where the state of active congestion has supervened upon a previously existing condition having a febrile movement. In passive congestion the picture is entirely different, the vomiting being only occasional without the ensuing severe retching; possibly the matter ejected is undigested and sour, accompanied by diarrhea, watery, thin fecal, and undigested, with a slight rise in temperature, rarely over 100° F. These cases are continuous and may become very grave, unless early checked, developing enterocolitis of a persistent type, or else if the surroundings be unhygienic and the diet injudicious, causing true cholera infantum with the rice-water discharges so characteristic of that malady.

Treatment.—The usual treatment for the active congestion is, of course, that for collapse, which it greatly resembles, with sedation of the gastric mucosa. Inhibition of the pneumogastric nerve and cardiac stimulation by the use of atropine in doses suitable to the child's age has been recommended. But there is one remedy that I have used so often and so successfully that I have discarded everything else, and that is aconite. There is no remedy in the *materia medica* which has as thorough a control over congested areas, wherever found in the human body, as the one mentioned.

The guide to its use in congestive cholera infantum with me was the character of the pulse.

Arterial tension always calls for aconite, and the tenseness of the infantile pulse first led me, years ago, to prescribe it, and the success following its use was so gratifying that I have continued to use it ever since.

As a matter of course, feeding or suckling the child must be held in abeyance for several hours (usually four to six), then a few mouthfuls from the breast, or a little beef juice, increasing the quantity as time elapses without attempts to vomit.

For the state of passive congestion there are three remedies that have served me well, viz.: Calomel, chamomilla and belladonna. Probably a majority of these cases will be promptly cured by three half-grain doses of calomel, combined with two grains of calcium carbonate or soda bicarb. given an hour apart and followed two or three hours after the last dose by a teaspoonful of castor oil. This will cause a good cleansing of the alimentary canal, removing the offending material which has been exciting fermentation, irritation, or hyperemia, when a few powders of bismuth and salol, or calcium sulpho-carbolate, will complete the cure and avert a possible long and troublesome sickness,

Chamomilla cures many such cases, when the child is teething, with sour vomiting, offensive green, watery stools, slightly feverish and irritable temper only pacified by being carried around, a few drops of the tincture of chamomile in half a glass of water, a teaspoonful hourly until improvement has well set in, will speedily restore the equilibrium.

Belladonna is indicated by feverishness, with hot head, cold hands and feet, and the predominance of nervous symptoms, startings, twitchings, grinding of the teeth, with occasional vomiting and wa-

tery offensive diarrhea. Given as above described for chamomilla it has done effective service.

Too much stress can not be laid upon the importance of the diet in these cases, as the slightest indiscretion may precipitate a grave crisis.

The child should not be allowed at the table, and if artificially fed should be given only the prepared milk foods, or thoroughly sterilized, well diluted milk from a healthy cow. My own preference, when I can have it, is for diluted cream —reducing it with warm water one-half, adding a little sweetening, allowing the child an ounce every two hours. Its advantage is that it carries much nourishment in a small space, and does not burden the stomach. When I can prevent it I do not allow the mothers in my practice to wean their children until the second summer has passed, as there is nothing to take the place of the human milk when the children are sick, and if the mother is not in a healthy condition, I endeavor to correct whatever is amiss. It has frequently happened that I have met cases of vomiting and diarrhea of several weeks' duration where the cause (worms) had been overlooked, and a few doses of calomel and santonine have removed the cause and recovery has been prompt, often without other treatment. Worms cause indigestion and thence the graver trouble of severe vomiting which may result fatally, the moral of which is, be sure to diagnose the condition and the means will suggest themselves.

Indigestion is best treated, if possible, by prevention. If we could make the mothers in our practice understand that a child can not digest anything but its milk prior to its twelfth month, and that after that time its digestive power will still be feeble for months to come, we might then be able to prevent much misery, certainly, from that cause. But as we must deal with things as we find them, the first thing to do is to insist that the child shall be returned to first principles, then clean out the prima viæ with calomel and calcium carbonate or soda bicarb., followed by a saline or castor oil, and follow again with a gastro-intestinal antiseptic and a digestive. This treatment with careful nursing and rigid adherence to the rules of feeding will prevent possible disaster. Careful feeding, artificial digestion and antisepsis certainly constitute the best protection, in my opinion, against disaster from infantile indigestion.

Ileo-colitis, another form of cholera infantum, characterized by mucous stools, with or without pain, often dysenteric in character, with much tenesmus, and varying temperature, from subnormal to 103° F., and in fatal cases may go still higher.

A majority of recent cases will be speedily cured by a calomel and castor oil purge, cleansing the alimentary canal, and a few doses of aconite. I scarcely ever give anything else in such cases. I may say right here that, therapeutically speaking, there is no difference in the results obtained from a good, reliable, clean tincture of aconite, and the amorphous aconitine. I have used both.

Those cases which have had two or three weeks or longer duration may, however, require various remedies.

When the stools are frequent, slimy, undigested, offensive, and the temperature ranging from 101° to 103° F., tinct. sulpho-carbolate has given me excellent satisfaction. If the patient is past one year old I give one-half to one grain hourly, until the temperature begins to fall, or the body is covered with a gentle moisture, then every one or two hours. The salt will not irritate if it is pure.

I have but recently had a case which had been sick four weeks and whose temperature at five P. M. was 102° F. I gave him one grain of the tinct. salt in solution half hourly for six doses, then hourly until midnight. The next morning at eight o'clock the temperature was 99° F., and the second morning was subnormal, the mucous stools gone, and the few stools remaining were digested milk. Not all cases, however, so treated, will do as well as this one, much depending on the reactive power of the infantile constitution, but it will be found useful probably in all cases. I have no doubt of the inhibitive power of this salt over the toxic effect of the bacteria with which the alimentary canal is swarming. And, in my judgment, it has a similar effect on toxins in the blood, else why should the temperature fall? Bismuth subcarbonate may be

given in addition as a sedative to the mucosa, and is to be preferred to the subnitrate in infantile diarrhea. This treatment will save many cases if the patient be carefully nursed. But the little one must be carefully guarded against atmospheric impressions and errors of diet.

If the patient fails rapidly, with green or brown mucous stools smelling like carrion, with restlessness and unquenchable thirst, a few sips of cold water pacifying it, arsenic has been very useful, often curing, but at least stopping the rapid progress of the disease. Fowler's solution has served me best and I have sometimes given as much as one drop every two hours, for a few doses, with only favorable results.

Should dystenteric symptoms become manifest, with severe and prolonged tenesmus, calomel one-twentieth to one one-hundredth grain hourly until bile appears in the stools, then less frequently, will prove of great advantage, and often cure the case without further medication. Bismuth subnitrate five to ten grains and ipecac one-quarter grain hourly, will often do excellent service in dysenteric colitis. Atropine will frequently retard peristalsis and will serve as an injunction on proceedings in many cases.

If exhaustion should appear imminent, the red tincture of cinchona, or elixir calisaya, in doses suitable to the case, with or without strychnine, will prove very effective in many cases. Should typhoid symptoms develop, baptisia may prove useful, but my favorite for such condition is a combination of salol one grain, sulph. one grain hourly, until improvement sets in, then less frequently. Antisepsis and systemic support are the watchwords in the treatment of these cases.

Opiates should mostly be conspicuous by their absence from the treatment. If needed, codeine one sixty-seventh grain hourly, until effect, is the safest, and should be discontinued early.

Dover's powder in doses of one-half to one grain may be given to affect, then stop. It is probable that more children die from retained and absorbed and possibly reabsorbed toxins from the retention of stool caused by the opiate than from the drug itself in considerable doses.

Frequent flushing of the colon with hot salt or boric acid solutions aids very materially in the treatment of this disease. But it should be done at least twice daily. For several hours after the washing the stools will likely be *nil*, then will return with considerable frequency until after the next flushing, thus decreasing until the necessity therefor is no more.

I have discussed this subject at considerable length and still it is not exhausted, but for me to extend the discussion would be burdensome to the BRIEF and its readers.

[Written for the MEDICAL BRIEF.]

A Few Notes on Malaria.

BY J. A. BURNETT, M. D.,
Dean Spring, Ark.

I have seen physicians who desired a substitute for quinine in malaria, and here it is:

℞ Fld. Ext. Gentiana..... 4 drachms.
Fld. Ext. Hydrastis ..... 4 drachms.
Fld. Ext. Cascara ..... 2 drachms.
Salicin.....20 grains.
Tinct. Myrrh Comp..... 1 drachm.
Simple Syrup..... 8 ounces.

M. Sig.: To keep off a chill give one drachm every hour until six, eight or ten doses are taken, beginning so that the last dose will come one or two hours before the chill is due.

At other times give a drachm every three hours. I claim the above compound to be a reliable anti-periodic and can be used in all cases where it is not desirable to use quinine. It is a well-known fact that quinine will produce a rash in some cases, while in others it will cause nervousness, headache, etc., and I believe it causes hematuria in some cases. All physicians who want a substitute for quinine in malaria can now have it, and one that, according to my experience, is equal to quinine as an anti-periodic, and I want all to give it a fair test before condemning it or disputing it being equal to quinine as an anti-periodic. The liver should be made active before using it, same as with quinine, and I find it best in most all cases to give a few doses of santonin before giving an anti-periodic, for it is a fact, but disputed by most physicians, that there are cases of chills that anti-periodics will not have effect on until worm medicine is used. Alstronia con-

stricta is a reliable anti-periodic in most all cases of malaria. It is more adapted to sub-acute and chronic cases, but will give good results in acute cases. In mild cases sabbatia angularis is a reliable anti-periodic, but I have found that it should not be depended upon in stubborn cases. When quinine is used I find it acts best in combination with other remedies. The following is a good prescription, and is far superior to quinine alone when an anti-periodic is needed:

℞ Quinine.....72 grains.
Acetanilide.....48 grains.
Capsicum.....24 grains.
Caffeine.....12 grains.

M. Sig.: Divide into twenty-four doses. To keep off a chill give one powder every two hours until four or five doses are taken. At other times one powder every three or four hours.

Potassium bromide is the best remedy to use for headache during malaria. A good febrifuge in malaria is:

℞ Specific Asclepias.....2 drachms.
Specific Aconite.....5 drops.
Specific Ipecac.....5 drops.
Aquæ.....q. s. ad.....4 ounces.

M. Sig.: One teaspoonful every one or two hours.

Chionanthus is a good hepatic stimulant in all cases of malaria, but in the beginning calomel and podophyllin should be used.

[Written for the MEDICAL BRIEF.]

Trials in Practice.

BY C. R. KING, M. D.,

Atlanta, Ga.

I want to tell your many thousand readers something that happened to me in 1876—thirty years ago. I was practicing medicine then in a small frontier town in a fine new country in the Lone Star State. We were one hundred and forty miles beyond civilization, and almost every man wore buckskin breeches or long-haired goat skin overalls, as they were in the cattle business, also broad-brimmed snake-band hats. They carried Winchester rifles and a brace of Colt's or Smith & Wesson revolvers, and each man was a law unto himself. Sometimes our lawn was made lurid when a number of the different factions met there and tanked up on booze. On one of these occasions, late in the fall, one man shot another at the gate of a residence in the vicinity, while the wife of the occupant was sitting on the veranda. She swooned at the sight of the killing at her gate, fell out of her chair, and as she was near a confinement she was greatly shocked. This lady was the wife of the sheriff. On the following evening it was found that the lady was suffering sharp pains, and the amniotic fluid had escaped. I made an examination and found the fetus dead, and forced down in the vacro-lumbar region. I was placed in this position, being eight miles from town, midnight, and dark as pitch, also raining like fury, and not an ounce of chloroform, not an instrument, and not a doctor in the town I had any confidence in to help me in such a case. So I did not discuss the situation owing to the fact that I did not know what any other author had written on the subject. I told her to be brave and all would be well.

'I knelt down and could feel the segments of each lumbar vertebra, then I pushed my two forefingers between and when the pain subsided I pushed to the right with all the force I had. I felt the whole body move toward the head of the child which rested in right pelvic region—breech in the left—pains rapid and strong. As soon as expulsive force relaxed, I forced again and felt the whole bulk of child move. I repeated the exertion between each pain until I soon had a breech presentation and expulsive effort from mother and child was expelled. It was really pleasing to me. The secundines soon followed—no hemorrhage of any consequence—good uterine contraction. It was accomplished in less than one hour. Barring the loss of a fine boy—first born—there was rejoicing in that cabin on that dark, stormy night, and they thanked me for the skillful way in which I managed the case. But boys, let me tell you that it was downright luck, as I simply, in sheer desperation did the right thing at the right time. They have grown wealthy (but not I) and have had ten children since, and although thousands of miles apart, they still kindly remember me several times a year.

512 Austell Building.

Book Notices.

THE PROPHYLAXIS AND TREATMENT OF INTERNAL DISEASES. Designed for the use of Practitioners and of Advanced Students of Medicine. By F. Forchheimer, M. D., Professor of Theory and Practice of Medicine and Clinical Medicine, Medical College of Ohio, Department of Medicine of the University of Cincinnati; Physician to the Good Samaritan Hospital; Member of the Association of American Physicians, the American Pediatric Society, etc. New York and London: D. Appleton & Co. Price, $5.00.

This is eminently a practical work, one which concerns itself diligently with the business in hand. It first lays down broad principles, then details the special applications of them, where possible; failing that, it indicates the proper direction for their application. It is essentially a work of breadth, as well as one of experience, and it is refreshing to find a practical physician to whom the making of a correct diagnosis is but the beginning rather than the end of his craft. Dr. Forchheimer has assuredly given us a most excellent work—one that assures a large sale to the general practitioner. Secure this work as an adjunct to any medical work you may have, and you will not only be pleased but fully benefited.

TEXT-BOOK OF MEDICAL JURISPRUDENCE AND TOXICOLOGY. By John J. Reese, M. D., Late Professor of Medical Jurisprudence and Toxicology in the University of Pennsylvania; Late President of the Medical Jurisprudence Society of Philadelphia. Seventh Edition. Revised by Henry Leffmann, A. M., M. D., Professor of Chemistry and Toxicology in the Woman's Medical College of Pennsylvania; Pathological Chemist to the Jefferson Medical College Hospital. Philadelphia: P. Blakiston's Son & Co. Price, $3.00.

As will be seen, this work has reached its seventh edition. The worth of a work on any subject that has attained this distinction must have merit. Its distinguished author was a man of high attainments on this subject, and laid out a work that certainly will remain as a monument to his wide experience in his chosen line. The honorable gentleman—Dr. Leffmann—has revised this edition in a very creditable manner, and brought the matter up-to-date in all particulars, thus giving the present reader the benefit of late methods. One of the new matters to attract attention is the application of the X-rays to the study of development of the skeleton, a method that has direct bearing on the question of identification. All in all, it is worth reading.

CONISTON. By Winston Churchill, Author of "Richard Carvel," "The Crisis," "The Crossing." Freely illustrated from drawings by Florence Scovel Shinn. New York: The Macmillan Company. Price, cloth, $1.50.

Without fear of contradiction, we wish to state that Mr. Churchill is the most popular novelist in the United States at the present time. This book does not appear in the same class as his previous works, but is a love story of the most engrossing kind. We are treated to so much of the high, strong and intense in the books of the time that to us there is real refreshment in Churchill's cheerful and life-like pages, as they breathe the breath of life and reality. In reading such books we entertain a purer taste for the didactic works of love and sentiment. We believe that this is Winston Churchill's best effort, and should be read by all lovers of good literature.

THE PRACTICAL MEDICINE SERIES, Comprising ten volumes on the Year's Progress in Medicine and Surgery. Under the general editorial charge of Gustavus P. Head, M. D., Professor of Laryngology and Rhinology, Chicago Post-Graduate Medical School. Volume III.—The Eye, Ear, Nose and Throat. Edited by Casey A. Wood, C. M., M. D., D. C. L.; Albert H. Andrews, M. D.; Gustavus P. Head, M. D. Series, 1906. Chicago: The Year Book Publishers. Price of the ten volumes, $10.00. Price of this volume, alone, $1.50.

It is a special feature of this series that any volume on a special subject can be purchased. Yet it is a saving to get the entire series of ten volumes. The past year has been very productive on the literature of ophthalmic practice and much has been produced in papers on the ocular symptoms in general diseases, and this has been a great aid to the general practitioner in medicine and surgery. We believe that more attention should be paid to ocular defects than has been customary from a standpoint of general practice.

INTRODUCTION TO MATERIA MEDICA AND PHARMACOLOGY, Including the Elements of Medical Pharmacy, Prescription Writing, Medical Latin, Toxicology, and Methods of Local Treatment. For the use of Students of Medicine and Pharmacy. By Oliver T. Osborne, A. M., M. D., Professor of Materia Medica, Therapeutics and Clinical Medicine in Yale University, ex-President of American Therapeutic Association; ex-Chairman of the Section on Pharmacology and Therapeutics of the American Medical Association. Philadelphia: Lea Brothers & Co. Price, $1.00.

Dr. Osborne is so well known in the field of practical and scientific therapeutics that the mere mention of a work from his pen guarantees to the reader a profitable work on any subject along his line of thought. All along the line of experimental pharmacology, the action of the important drugs, the explanation of the important preparations of the United States Pharmacopeia, the dose given in both systems, the sections on poisonings, weights and measures, Latin abbreviations, prescription writing and dosage are all given in a lucid manner, that should engage the attention of the student and practitioner at times when he needs a quick reminder. It is a valuable and convenient little book to have at a handy moment.

A MANUAL OF THE ECLECTIC TREATMENT OF DISEASE. Designed for the many students and practitioners who are now diligently searching for knowledge of the most direct action of drugs, as applied to Specific Conditions of Disease. By Finley Ellingwood, M. D., Professor of Materia Medica and Therapeutics and *pro tempore* Professor of the Practice of Medicine in Bennett Medical College, Chicago, etc. In two volumes. Volume I, Chicago: Chicago Medical Times Publishing Company. Price, $3.10 per volume.

There seems to be a great demand for a work on eclectic treatment, and we do not know of any more worthy author for such work than Dr. Ellingwood. The volume before us contains four hundred and fifty-five pages of ideas that can only be found from the pen of such an author. The Symptomatology, Diagnosis and Prognosis are very complete, and the Treatment exhaustive, thus we find facts that the practitioner will appreciate. This is a work that appeals to all pathies, although written by a teacher of the eclectic school. Secure it and you will be amply paid.

THE HEALTH CARE OF THE BABY. A Handbook for Mothers and Nurses. By Louis Fischer, M. D., Author of "Infant Feeding in Health and Disease," "A Text-Book on Diseases of Infancy and Childhood;" Attending Physician to the Willard Parker and Riverside Hospitals, etc., etc. New York and London: Funk & Wagnalls Company. Price, 75 cents.

This is a very important subject and should have some authoritative information in regard to the best plans to pursue for ventilation, clothing, bathing, nursing, etc., for the care and proper attention of the infant. If you think there is nothing to learn do not secure this work, because it gives in an intelligent way a guide as to what is the best to do for the minor troubles, such as measles, croup, skin diseases, accidents, poisonings, etc. It is certainly a good work for mothers to have to pave over troubles until the doctor comes.

THE EAR AND ITS DISEASES. A Text-Book for Students and Physicians. By Seth Scott Bishop, B. S., M. D., LL. D., Honorary President of the Faculty and Professor of the Post-Graduate School and Hospital of Chicago, Surgeon to the Post-Graduate Hospital and to the Illinois Hospital, etc. Illustrated with twenty-seven colored lithographs and two hundred additional illustrations. Royal octavo, 440 pages. Bound in extra cloth. Philadelphia: F. A. Davis Co., Publishers. Price, $4.00.

The author's work on "Diseases of the Nose, Throat and Ear" had an unprecedented sale, and this encouragement, through its adoption in the schools of the United States and Canada, with generous criticisms and valuable suggestions from the profession, has encouraged the author to now produce a work on the ear alone for the requirements of the student and general practitioner. The work has been done well and faithfully and should be in every physician's library.

URIC ACID. The Chemistry, Physiology, and Pathology of Uric Acid, and the Physiologically Important Purin Bodies. With a Discussion of the Metabolism of Gout. By Francis H. McCrudden, Laboratory of Physiological Chemistry, Harvard Medical School. New York: Paul B. Hoeber. Price, paper, $2.50.

The work contains numerous extracts from authors on uric acid as a factor in the causation of disease. As a digest of the best of all authors on the subject this work is a leader.

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Editorial.

Maligned.

The druggists, as a class, are the worst maligned men in business. The average druggist is an educated and honest man, who buys the best drugs obtainable to fill prescriptions. He probably never keeps a cheaper kind of drugs to substitute on doctors' prescriptions. He does not deserve the obloquy heaped on him by the demagogues. His medicines are usually purer than those kept by the physician, as he is a better judge of their quality. There may be exceptions, of course—we read the other day of a preacher running away with another man's wife, but that does not prove all preachers are rascals.

Fools.

It is, perhaps, unfortunate, but nevertheless true, that the majority of men are fools. They believe things and do things because others do them, without investigating for themselves. Most men get their religious and political views from their families, without investigating both sides of the question, and coming to their own conclusions. Most men dislike to see their neighbors prosper, forgetting the fact that they can not make money out of a man who has not got it. The next best thing to being prosperous yourself is to have your neighbor prosperous. The doctor who practised medicine in the South after the war found that he could not make money out of the man who did not have it, with the result that socialistic doctors are almost as scarce in the South as hens' teeth. It is well known to those that have to rent that wealthy landlords make the best landlords. It is well known in New York City that the Astors, for instance, make good landlords. The doctor generally knows that it is best for him to locate in a prosperous neighborhood, hence the folly of the ordinary crusade against wealth.

Milk.

Milk, as ordinarily obtained, is very much over-rated as a food by the profession. It is conceded that milk from perfectly healthy cows is O. K., but how

many perfectly healthy cows are there? The milk from stall-fed cows, tuberculous cows, or insect-bitten cows, is poisonous; besides, the water added to the milk to increase its bulk is generally not of the best character. The profession must find a substitute for milk. Who will find it?

Socialism as It Is.

Two Irishmen, Mike and Pat, met each other, when the following conversation ensued:

Mike: "Pat, I understand that you are a Socialist, and as Socialists are very rare among Irishmen, please give me your reasons."

Pat: "Faith and be jabers, Mike, I'm a Socialist because I believe we ought to divide what we have with each other."

Mike: "Do you mean to say, then, that if you had two thousand dollars you would be willing to give me half?"

Pat: "Yes, be jabers."

Mike: "Do you mean to say if you had two horses you would be willing to give me one of them?"

Pat: "Sure and I would."

Mike: "If you had two goats would you be willing to give me one of them?"

Pat: "Look here, Mike, you know I've got two goats, and you want to get one of them for nothing, but you can't swindle me that way."

The above shows that Socialists are willing to divide with other people what they have not got, and are willing to divide with the other man when the other has got something, but are unwilling to divide with the other man when they have something themselves.

[Written for the MEDICAL BRIEF.]

A Question of Diagnosis Involving the Liver and Gall Ducts.

BY W. F. FRANCIS, M. D.,

Professor of Physical Diagnosis and Clinical Medicine in the College of Physicians and Surgeons; Consulting Physician at the Jefferson Hospital; Clinical Instructor at the City Hospital; Member of the Mississippi Valley Medical Association, Etc., Etc. St. Louis, Mo.

The following case presents some puzzling elements in physical diagnosis. My query is, whether I am dealing with a case of catarrh of the gall ducts, or gall stones.

This patient, a lady sixty-two years old, married, but has never borne a child, lives in a pleasant home in Florida in a section of the country where congestion of the liver is an unheard-of complaint. Her most pronounced symptom is periodical pain occurring about twice each month. This pain, while it points more or less directly to the passage of gall stones through the ducts, is unaccompanied by any other symptoms indicative of the disease. There is no derangement of the bowels, no tendency to constipation, no jaundice, no enlargement of the liver, very little tenderness over the gall-bladder, and no evidence of a catarrh of the gall ducts, and yet that patient evidently is suffering from catarrh of the gall ducts. Up to the present time there has been no such voidance of urine as would indicate a condition leading to a diagnosis of gall stones. Urine fails to reveal any abnormal features except a very slight albuminuria.

This patient came North for treatment, and was imbued with the idea that she was suffering from gall stones. The family are of the phlegmatic temperament. A sister some years ago developed symptoms of gall stones and underwent treatment for that condition with the most satisfactory results. My patient is constantly on the watch for symptoms of gall stones. Examines her urine carefully, but up to the present time nothing has been revealed that would give any stability to the belief that she is suffering from this disease.

Her temperature is normal, pulse rate normal, and with no evidence of there having been any calorific changes at any time. In fact, she has been in excellent health and is in good health at the present time with the exception of the semi-monthly attacks of colicky pain. Her general appearance and condition are excellent. This is the first case of the kind I have seen and while I have made a tentative diagnosis of catarrh of the gall ducts, I am still holding the case under advisement. Meantime I am giving her medical treatment which I believe will cure her.

2003 Park Avenue

THE MEDICAL BRIEF

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[Written for the MEDICAL BRIEF.]

Municipal Milk Depots.

BY JOSEPH PRIESTLEY, B. A. (LOND.), B. A. (VICT.), M. D. (EDIN.), D. P. H. (CAMB.),
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No sanitary authority should be satisfied with the sanitary progress of the district over which they have control whilst the deaths of infants under one year of age remain yearly as high as at present. This high infantile mortality is a disgrace to present sanitary administrative and preventive methods, and represents an enormous waste of life that is more or less preventable. If preventable, why not prevented? This is a question that it is difficult to answer satisfactorily, as is shown by the fact that there has recently been held in London (June 13 and 14, 1906) a National Conference on Infantile Mortality, the patrons of which were their royal majesties, the King and Queen of England. Between four hundred and five hundred delegates were present from different sanitary or health authorities, associations, institutes, etc., and the President of the English Local Government Board (the Rt. Hon. John Burns, M. P.) acted as president, and gave the inaugural address, in the course of which it was pointed out that infantile mortality, as it at present exists, is preventable, and that means are at hand to prevent the present great waste of infant human life, which is, the president stated, "neither a dispensation of nature nor an ordinance of man." Amongst the preventive measures at hand a most important one is the establishment, by sanitary authorities, of municipal milk depots, wherein pure milk is modified and prepared, so as to be in composition and nature similar to human (mother's) milk, and, therefore, suitable for the nourishing of infants and young children.

What is the nature of this infantile mortality, statistically considered? It may be stated that, taking England and Wales as a whole, about one hundred and thirty thousand children are born every year to die before they are one year old. In London alone the number may be stated as (roughly) twenty thousand. This is sad reading, but the sadness is intensified when the figures are read and considered, *pari passu*, with the birth rates, which are slowly and surely declining, both throughout England and Wales, and in London. In addition to the deaths, the concurrent *morbidity* must be remembered, if we wish to get a true picture of the amount of damage that is really done. This *morbidity* helps to impair the constitution of the growing population, and England must wake up if she wishes

to hold her position amongst the other nations of the world in this (and other) respect.

The subjoined table, which has been constructed from the Decennial Supplements of the Registrar-General for England, gives, statistically, in figures, what has been and is still going on throughout England and Wales, and in London.

Table showing uncorrected birth rates, death rates, and infantile mortality rates registered in England and Wales, and London during the half century, 1851-1900:

ENGLAND AND WALES.	1851-60	1861-70	1871-80	1881-90	1891-1900
Birth-rate per 1,000 population.....	34.1	35.1	35.3	32.3	29.9
Death-rate per 1,000 population.....	22.2	22.4	21.3	19.1	18.2
Infantile mortality rate per 1,000 births...	154	154	149	142	153
LONDON.					
Birth-rate per 1,000 population.....	33.5	35.2	35.2	33.1	30.3
Death-rate per 1,000 population.....	23.6	24.3	22.4	20.3	19.2
Infantile mortality rate per 1,000 births...	155	162	158	152	160

He who runs may read what this table shows, viz., a declining birth rate, a declining death rate, and a stationary (or slightly increasing) infantile mortality rate.

The declining death rate is cause for congratulation—the result of sanitary advancement. This declining death rate applies to all age periods, except infants and children, aged naught to one, and one to five years. Why is it that infancy and child life do not benefit from the improved sanitary conditions? The answer is not far to seek. There is a factor, or factors, that counterbalance any good that is likely to accrue from improved sanitary surroundings, viz., improper, unsuitable and irregular feeding of infants and young children. Indeed, maternal ignorance and carelessness in regard to the feeding of infants and young children is proverbial. Whilst it is undeniable that any *artificial* (or hand) feeding of infants can, in any way, compare in value with *natural* feeding (or suckling), it still is a fact that, in a large percentage of cases, *artificial* feeding (by hand) is an absolute necessity. It is unfortunate that such a state of affairs exists, but it does, and we must make the best of it, and see how we can make the necessary *artificial* feeding approach nearest to the *natural* feeding.

Mothers will not, or can not, do their duty by their infants, in regard to feeding, and the alternative methods adopted are unsuitable, as well as irregular, and, therefore, totally opposed to what nature not only dictates, and requires, but *must* have, if infants are to prosper. Maternal ignorance or carelessness, drunkenness, overcrowding, unsanitary conditions, female labor, etc., are also factors that assist in making up this high infantile mortality; but it is admitted now by all that the chief cause is improper, unsuitable and irregular feeding, condensed milk (separated and other), sopped bread or biscuit, other farinaceous or starchy foods of different kinds, "ordinary" food for adults, beef tea, meat, alcohol, tea, etc., are found to be given to children of tender years by parents and others. Even when good cow's milk is given the unsanitary conditions under which such milk is, in many cases, collected and stored prior to use, are such as to insure, at times, its contamination with dirt, and (maybe) germs, thereby causing digestive troubles, and the common disease of infants, known as *cholera infantum*, or "summer or infectious diarrhea."

The above facts make out a case for interference, and, admitting the difficulties surrounding the subject, and allowing for constitutional deficiencies in the parents, etc., good must accrue from the establishment of a municipal milk depot, at which to provide, and from which to distribute, suitable, sterilized or pasteurized (if thought necessary) wholesome milk, modified or prepared for the feeding of infants, chiefly of the poorer classes, amongst whom ignorance and carelessness most abound, and whose children, unfortunately, are unable to secure nature's food from nature's supply.

Again let it be emphasized that no *artificial* food can compare with *natural* food, which must be used, if possible.

Given a case or cases in which such *natural* food can not be secured, for one reason or another, or, if secured, is of doubtful quality, owing to the state of health of the mother, or the conditions and circumstances under which she is living, *artificial* food becomes a neccessity, and must be prepared on scientific lines, and with scientific accuracy. Physiologically, cow's milk must be the basis of the *artificial* food required, but it requires modification or treatment so as to alter its composition, and make it comparable with mother's milk, analyses of which show that it differs from cow's milk in certain particulars, to be dealt with more fully afterwards in describing the special preparation, or modification, to be carried out at the depot. Suffice it to say that the proteid (casein) must be reduced, as also the mineral matter, and the sugar increased of cow's milk to render it of the nature and quality of mother's milk. The reaction of mother's milk is alkaline, that of cow's milk acid. Whilst mother's milk is sterile and remains so in passing directly from the mother's breast into the infant's mouth, whereas cow's milk, though sterile as it passes out of the cow's udder, quickly becomes non-sterile and, eventually, teems with germs, gained from the air, or from the various objects with which it comes into contact in its passage from the cow to the feeding bottle from which it is given to the infant. This raises the question as to the need for sterilization or pasteurization of all cow's milk before it is given to infants. *Ideally*, it should not be necessary —absolutely pure milk only being used; *practically*, it is necessary under present-day conditions. Pasteurization *i. e.*, heating the milk to a temperature of 70° C. (158° F.), and keeping it at that temperature for twenty to thirty minutes, is preferred to sterilization, *i. e.*, heating the milk to a temperature of 110° C. (230° F.), and keeping it at that temperature for some time. The former process does not kill all the germs, *e. g.*, tubercle bacilli and certain diarrhea bacteria; the latter does. On the other hand, the latter process (sterilization) may interfere with the nutrititive value of the milk, altering its taste, rendering the casein more difficult to digest, coagulating the lactalbumen, and destroying or interfering in some way, with the emulsification of the fat. Pasteurized milk only keeps for two or three days; sterilized milk (properly sterilized) for as many months or years. Whichever process be adopted rapid (subsequent) refrigeration is absolutely necesssary. Best scientific opinion is to the effect that digestibility and absorption of milk are not interfered with by such a process as sterilization to any important extent, the only disadvantage being the *occasional* occurrence of infantile scurvy in those consuming, for any length of time, sterilized milk.

This, then, is the work that a sanitary authority sets itself out to accomplish, in providing a municipal milk depot, and there can be no two opinions as to the value of the results, as far as the health and life of the infants fed therefrom are concerned. To France belongs the credit of being the pioneer in endeavoring to reduce infantile mortality by the supplying of sterilized milk for those infants who are, per force, to be artificially fed. The *Consultation de Nourrioson* and the *Goutte de Lait* have done excellent work during the last fifteen years—the first institution being started at Nancy in 1890, to be followed by similar ones in Paris by Professor Budin, in connection with hospitals, in 1892-1898, and by other medical men afterwards (in connection with which special mention may be made, from an historical point of view, of Dr. Variot's first *Goutte de Lait*, established in Paris in 1892, at the Belleville Dispensary). Dr. Leon Dufour's Fécamp establishment followed in 1894, and since then similar establishments have been established throughout different French towns. The idea spread from France to (*a*) other continental countries, *e. g.*, Belgium, Spain, Russia, Germany, etc.; (*b*) Africa and America and England.

In England, "milk depots" may be regarded as the practical outcome of the *Goutte de Lait* idea of France, and the good example first set in England at St. Helens, in 1899, has since been followed by Liverpool, Dukinfield, Ashton-Under-Tyne, Battersea, Leith, Bradford, Burnley, Glasgow, Dundee, and last but not least Lambeth (a large metropolitan district in the County of London). This last-named

institution (now in full working) suggested the present article as a matter of interest for the large number of readers of the MEDICAL BRIEF.

A short description of the Lambeth scheme will show the lines upon which these municipal milk depots must be run, but, before giving this, mention may be made of what New York City has done in this direction. Straus's public supply of (*a*) pure milk and (*b*) specially prepared infants' milk, in 1893, the milk being Pasteurized and modified in the latter case. From the original center in East Third street, New York, branch depots (over a dozen in number) were established throughout New York, whilst the idea spread to Philadelphia, Brooklyn, Chicago, and Yonkers, N. Y., at all of which towns philanthropic institutions were opened, the milk being Pasteurized in all. In Rochester, N. Y., the municipality took up the idea, but in this case no Pasteurization nor sterilization are now carried out, the milk being kept pure by the observance of strict cleanliness and careful refrigeration. The milk is prepared at a municipal farm outside the city, all utensils used being carefully sterilized. The milk is then put into hermetically-sealed bottles, which are packed in and covered with ice before being sent into the city.

THE LAMBETH MUNICIPAL MILK DEPOT.

The Lambeth municipality decided on July 14, 1904, to establish and maintain within the borough of Lambeth a milk depot for the distribution and sale, at a nominal charge, of specially and suitably prepared (or modified) wholesome pure cow's milk for the use of infants whose mothers are unable to suckle them wholly or in part. This decision was arrived at owing to the large number of infantile deaths every year due to improper and irregular feeding, more especially in the crowded wards and districts. The number of Lambeth deaths is, on the average, fourteen hundred per annum, whilst there is, in addition, a corresponding *pro rata* amount of ill-health amongst the infantile population, due to the same causes. Statistically, the death rate may be given for Lambeth Borough (population over three hundred thousand), as follows:

	1857-60	1861-70	1871-80	1881-90	1891-1900
Birth-rate per 1,000 population.....	35.3	37.4	37.5	34.5	31.9
Death-rate per 1,000 population.....	22.1	22.1	23.2	20.5	19.6
Infantile mortality rate per 1,000 births...	150	155	152	145	151

It was felt that the *ideal* would be to have a municipal farm from which to supply the municipal depot, and there can be no question that that ideal would have been for the benefit of the borough of Lambeth, had it been practicable to carry such a scheme out. Financial considerations were against such a scheme, more especially as the Public Auditor had given the Borough Council to understand that the expenses connected with the establishment and maintaining of a municipal milk depot were illegal if taken out of the general rates, and would, consequently, be surcharged.

With great public spirit the Lambeth Borough Council decided to risk the surcharge, in the hopes of the disallowance being remitted by the local Government Board, in the exericse of the equitable jurisdiction conferred upon the board. Under such circumstances a municipal farm was out of the question, though such a scheme would have ensured pure, clean and wholesome milk from healthy cows; whereas, as it was, the initial difficulty was to secure a contractor's farm which was, in every way, suitable for the purposes of Lambeth Borough. Strict conditions had to be laid down, and these conditions will now be set forth as showing what steps the Lambeth Council took. To secure, as far as possible, such a pure, clean and wholesome supply of cows' milk for a depot, the following stringent conditions were laid down, to be agreed to by the contractor from whom the depot milk and cream are now obtained:

1. Inspection of Farm and Cows.—(*a*) The farm to be within easy distance of London, so as to secure rapid transit of the milk, with a minimum of vibration, from the farm to the depot.

(*b*) The farm and its buildings, water supply, drainage, dairy and cattle to be open, at any reasonable time, to the in-

spection of the medical officer of health, or other duly authorized person acting on behalf of the sanitary authority.

(*c*) The cows to be carefully selected, tuberculin-tested, and periodically inspected, if required, by a veterinary surgeon, so that only healthy cows will be used for milking, and those that are, in any way, "unfit" (diseased, newly calved, or under physic), will be at once "weeded out."

2. Feeding of Cows.—The cows to be pastured during the summer, and during the winter only fed with such food as a veterinary surgeon shall approve of, and as will prevent any taint being imparted therefrom to the milk or cream.

3. Milking of Cows.—The cows to be groomed (*e. g.*, udders, etc.) prior to milking, and the utmost cleanliness enforced at all times.

4. Straining and Cooling of the Milk.—The milk to be strained and cooled to 56° F., over a "Lawrence," or other cooler of approved pattern, immediately after milking, and prior to transit and delivery by rail.

5. Standard of Quality of Milk and Cream.—(*a*) The milk to be pure, fresh, sweet, clean, wholesome, well cooled, free from added preservatives or coloring matter (chemical or otherwise), with a *minimum* average of three per cent butter fat, and 8.5 per cent solids not fat, according to English government standard.

(*b*) The cream to be pure, fresh, sweet, clean, wholesome, smooth, free from lumps, or added preservatives or coloring matter (chemical or otherwise), with a *minimum* average of not less than fifty per cent butter fat.

6. Delivery of the Milk and Cream.—The milk and cream to be delivered at the depot daily (except Sundays) before eight A. M., in special delivery sealed churns or cans, with a warranty ticket attached to each churn or can guaranteeing its contents; the churns and cans to be supplied by, and to be the property of, the contractor, and to be removed (when empty) by him from the depot, as required, free of charge.

7. Cleanliness of Cows, Cow Houses, Utensils, Etc.—All cows, cow houses, pails, strainers, churns, and other vessels or utensils to be kept at all times scrupulously clean.

8. Milkers and Other Attendants.—Strict personal cleanliness to be enforced in the case of all milkers or other attendants who are brought into contact with the milk and cream.

9. Infectious Disease on the Farm.—No milk or cream to be supplied from the farm should there be any case of infectious disease connected therewith.

10. Power to Sample.—The sanitary authority to have the right to sample, at any time, the milk or cream at the farm, or at any point in course of delivery.

11. State of Refrigerator or Cooler.—The refrigerators or coolers, and the inflow and outflow pipes, etc., to be examined daily to ensure that everything is scrupulously clean, and in thorough repair and proper working order, and that there is no leakage by which water may gain access into the milk during the process of cooling.

12. General Conditions.—(*a*) Only milk or cream from the selected farm to be sent to the depot, except with the written consent of the medical officer of health.

(*b*) The supply of milk or cream to be increased or diminished within reasonable limits, at one day's notice from the medical officer of health.

13. Method of Payment.—All payments for milk or cream to be made monthly, either by check or otherwise.

14. Notice to Terminate Agreement or Contract.—One month's *written* notice to be given by either side to terminate agreement or contract, in case of breach of one or more of the conditions of such agreement or contract.

15. Breach of Agreement or Contract.—In the case of breach of one or more of the foregoing conditions being at any time proved, the contractor to pay to the sanitary authority the sum of twenty pounds, or any lesser sum that may be thought fit by the sanitary authority, as and for liquidated damages, for each and every time such breach of any condition shall have been committed—the sanitary authority to deduct the same from any amount which may be due from them to the contractor.

The pure, clean and wholesome cow's milk, on its arrival at the depot, is at once again carefully strained through a "Ulax" filter (Ulander's patent), rendering the milk practically free from impurities by a combined process of (*a*) straining through gauze metal discs, and (*b*) filtering through specially prepared cotton, which is pure, harmless, tasteless and inocuous.

The milk is afterwards specially prepared (or modified) under strict medical supervision, so as to render it in composition and quality similar to human, or mother's, milk. In this special preparation, or modification, water or whey, cream, milk, sugar and common salt are added to the cows' milk, as required, in certain proportions, and the resultant milk-mixture is suitable, physiologically, as a food for infants, and capable of nourishing them properly, varying slightly in composition and quality, according to the different ages of those using it, as is the case in human or mother's, milk—the so-called *percentage feeding.*

The *average* composition of human (or mother's) milk, as compared with cow's milk, is as follows:

Composition.	Percentages. Human (or mother's) milk.	Cow's milk.
Water	87 to 88	87 to 88
Proteid	1 to 2	2 to 3
Fat	3 to 4	3¼ to 4¼
Sugar	6 to 7	4 to 5
Mineral Matter	0.1 to 0.2	0.7
Reaction	alkaline	acid

Cow's milk is the basis of the infants' milk mixture, as physiologically it must always be in any substitute-food for infants, and the mixture is prepared on the lines suggested by the most recent discoveries in scientific feeding, and after careful experiments, containing all the constituents of breast or human milk, in the proper proportions required, and being, at the same time, free from all *added* chemical or other preservatives, or coloring matters. Cow's milk alone (*i. e.*, in its natural state and undiluted) is, physiologically, unsuitable for infant feeding, containing too much casein (proteid) and mineral matter, and too little milk-sugar.

It must be remembered that, however carefully a milk mixture may be made, and however closely it resembles human milk in composition, such mixture can only be regarded as a poor substitute for mother's milk, which is the best of all foods for infants.

The quantities of the milk mixture to be given vary with the ages of the infants to be fed, *e. g.:*

	No. of bottles per day.	Amt. of mixture per bot.	Amt. of mixture per day.
From birth to 2 wks.	9	1⅔ oz.	13⅓ oz.
From 2 to 4 weeks....	9	2⅓ oz.	22½ oz.
From 1 to 2 months ..	9	2⅔ oz.	22½ oz.
From 2 to 3 months ..	9	3 oz.	27 oz.
From 3 to 4 months ..	8	4 oz.	32 oz.
From 4 to 7 months .	7	5 oz.	35 oz.
From 7 to 9 months ..	6	6 oz.	36 oz.
From 9 to 12 months .	6	7 oz.	42 oz.

These specially-measured quantities of milk mixture are poured, by means of an automatic filler, into small, plain, white, sterilized glass bottles, which are hermetically sealed by means of patent detachable stoppers, and which are, afterwards, placed, as required, in the sterilizing or pasteurizing machine, wherein the bottles (and their contents) are subjected to a steam temperature sufficient to destroy any dangerous germs (infectious or otherwise) that may have gained accidental access thereto, and whereby the milk mixture is rendered sterile, and, in that way also, becomes more like human, or mother's, milk. The bottles of milk are gradually cooled down in specially constructed galvanized iron cooling tanks (in which ice, or a mixture of ice and salt, may be used, if required) to a suitable cool temperature, and are afterwards ready for distribution for use as a suitable and proper food for infants.

This careful sterilization (or pasteurization) of the milk by heat is assisted by its subsequent prompt and thorough refrigeration, though the nutritive value of the milk is little, if at all, interfered with by these processes as carried out according to the latest scientific opinion.

The milk mixture can be varied, if required, to meet special individual cases upon the request of a medical practitioner, application for such to be made to the medical officer of health.

The milk mixture is distributed in hermetically sealed glass bottles in wire baskets—each bottle containing just sufficient milk mixture for one meal (or feed), and each basket holding the neces-

sary number of bottles, containing sufficient milk mixture for an infant's twenty-four hours' supply. Baskets of empty bottles are returned to, and fresh supplies obtained from, the depot daily. The bottles are made so that they can each be used, when opened, as a feeding bottle, by simply attaching the teat to the bottle's mouth (specially lipped for the purpose), and mothers are advised, and warned, not to use any other feeding bottle.

On no account is a bottle to be opened until the infant is ready to be fed. In this way the milk reaches the infant in a pure and uncontaminated condition, and in the exact quantity needed for a meal—most desirable arrangements—and home contamination also becomes highly improbable, if not impossible.

The following list of instructions, or directions, are given to the parents, or guardians, of all infants, using the depot infants' milk in Lambeth Borough:

Instructions for the Use of the Lambeth Depot Milk for Infants.—1. The milk is supplied in bottles in wire baskets, each basket holding a supply of milk for twenty-four hours, and each bottle containing just sufficient milk for one feed (or meal). The number of bottles in each basket varies with the age of the infant using the milk, as follows:

Infants under three months, nine bottles per day.

Infants between three and four months, eight bottles per day.

Infants between four and seven months, seven bottles per day.

Infants between seven and twelve months, six bottles per day.

2. The charges (payable in advance) for the full supply of the depot infants' milk to persons living within the Borough of Lambeth are:

One shilling sixpence weekly, or threepence daily for an infant under six months old.

Two shillings weekly, or fourpence daily, for an infant aged six to twelve months.

N. B.—*The above scale of charges is increased for persons living outside the borough of Lambeth, viz., to two shillings threepence, and two shillings ninepence weekly, or fourpence and fivepence daily (payable in advance), respectively, for each infant.*

3. Mothers (and others) using the depot milk must guarantee to continue its use regularly during the needs of the infant, and strictly in accordance with the directions given, and to report at once to the depot should the infant be ill, or the milk not apparently agreeing with it. Should the milk be deliberately misused the supply will be stopped. All infants should be weighed regularly at the depot.

4. The milk must be sent for from the depot daily at the stated hours, and, if children carry the baskets, they must be warned not to tamper with the stoppers of the bottles. The milk should be kept in a cool place.

5. The presence of infectious disease in a house in which an infant using the milk resides, must be at once reported to the medical officer of health at the depot.

6. The infant must be fed slowly, and at regular intervals, as follows:

Under Three Months Old.—Every two hours during the day, and every four hours during the night.

Between Three and Four Months.—Every two and a half hours during the day, and twice during the night.

Between Four and Seven Months.—Every three hours during the day, and twice during the night.

Between Seven and Twelve Months.—Every three and a half hours during the day, and once during the night.

7. On no account must a bottle be opened until the infant is ready to be fed, and the whole of the milk in the one bottle should be given to the infant. If all the milk in one bottle is not used the remainder must not be warmed up again for the infant, but a fresh bottle must be opened for the infant's next meal. Older children can use up what is left in the bottles, if necessary.

8. Just before using the milk, each bottle should be placed, unopened, in a basin, or jug, of hot water, and warmed to a proper temperature. The bottle should then be opened and the teat, which is provided for the purpose, put on. Each depot bottle is a feeding bottle when furnished with the teat, and on no account should any other feeding bottle be used.

9. After using, the bottle should be thoroughly rinsed in cold water, and the teat carefully washed and brushed, both inside and outside.

10. The teat must be kept, at all times, scrupulously clean.

11. No food, in addition to the milk contained in the bottles, should be given to the infant, except by order of a medical man.

12. All bottles, stoppers, baskets, rubber rings and teats are the property of the Borough of Lambeth, and if not returned to the depot will be charged for at their full value. Breakages will be charged for at the rate of onepence per bottle, and damage to baskets must be made good. Extra teats will be supplied, if required, by the manageress at the milk depot at the rate of threepence each teat.

N. B.—*The depot is open for the supply of infants' milk daily (Sundays excepted), from twelve noon to two* P. M., *and the sanitary authority's female inspectors visit regularly the homes of all infants using the milk.*

Such, then, are the lines upon which a municipal milk depot must be run if the *maximum* good is to be derived. *Ideally* the sanitary authority should own the farm, in the country, and all the milk should be carefully prepared and modified there, and sent off to various distributing centers throughout the district or districts to be served. Failing a farm, the sanitary authority must be careful to secure a supply of milk and cream beyond suspicion, whilst all method of preparation and modification must be carried out under strictly medical supervision, and under strict hygienic conditions. One of the chief values of a muncipal milk depot is, as an object lesson, not only to the trade but also to the inhabitants generally. The good results, as far as the infants fed are concerned, goes without saying. We have only to refer to statistics of the various established milk depots (including Lambeth) to justify their establishment and maintenance out of the general rates. Many infants' lives have been saved, and much illness prevented. More satisfactory results could not be shown from any other municipal undertaking.

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The Physiological Actions and Therapeutical Uses of Phosphorus and Some of Its Compounds.

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No. I.

Phosphorus occurs in the bodies of animals, especially in the bones and in nervous tissue; it occurs in bone chiefly as calcium phosphate, which constituent is most abundant in the bones of young animals. Animals obtain the phosphates necessary for the formation of their tissues from plants, especially from their seeds. Plants again draw their supply from the soil, whilst soils derive their phosphates from manure, also from small quantities existing in the oldest granite rocks, by the disintegration of which the fertile soils have been produced.

Phosphorus taken by the mouth, and especially when finely divided or dissolved, is absorbed into the blood under the influence of alkaline, albuminous or oleaginous materials which it meets in the stomach and intestines; the amount and the rapidity of its absorption are proportionate to the amount of such materials, and especially of fats, which are its best solvents. It circulates in the blood as free phosphorus. When oxidised into hypophosphorous or phosphoric acid it loses its characteristic toxic influence. A certain amount of phosphuretted hydrogen is probably formed in the bowel, but if so it is relatively unimportant.

Portions of unabsorbed phosphorus pass sometimes with the feces, rendering them phosphorescent, and the urine may present a similar appearance; it has also been found in a free state in the liver after death. It is eliminated by this, and other glandular organs, by the skin, and by the lungs.

When applied in the solid form phosphorus is liable to cause sores and even gangrene, and the same results may fol-

low its use in ointment. In certain experiments on dogs, however, when pieces were placed in the cellular tissue they remained unaltered, and no inflammation was excited, yet the animals died after a few weeks from phosphorus poisoning. On the other hand, rabbits and some other animals treated in the same way showed neither local nor general symptoms. When a dog swallowed a stick of phosphorus, it was afterwards found in an abscess, without other symptoms of local irritation. Hence it is clear that pure phosphorus does not necessarily act as a local irritant.

The fumes cause irritation, catarrh, and even inflammation of mucous membranes, especially those of the conjunctivæ and bronchi; they have also a special effect on the vitality of the periosteum and bone, permitting of necrosis of exposed parts, such as the maxilla and decayed teeth. It is only when the phosphorus fumes directly reach the periosteum or some raw vascular surface having immediate connection with the nutrition of bone, and when their application is prolonged under particular circumstances of temperature, and probably of oxidation, that injurious effects are witnessed. The necrosis was formerly thought to be entirely due to the local action of the phosphorus fumes when there were carious teeth in the jaw, but Stockman finds staphylococci, streptococci and tubercle bacilli in the pus from cases of carionecrosis of the jaw in workers with phosphorus, and having noticed the frequent association of the disease in tuberculous subjects, believes that the condition is due to the action of the tubercle bacilli on the exposed bone, resistance of which had been lowered by the influence of phosphorus fumes. By taking precautions to maintain good hygienic conditions for rabbits exposed to the fumes of phosphorus after the bone of the jaw had been laid bare, he was able to protect them against cario-necrosis. The substitution of the amorphous for the yellow variety of phosphorus in match factories prevents the occurrence of such cases.

After taking, in ethereal solution, one-fiftieth grain each morning for ten days, and then one one-hundredth grain nearly four weeks, I experienced increased thirst and dryness of mouth, with coated tongue, flatulent distention and eructations, and an uneasy feeling in the region of the gall-bladder, without nausea or vomiting; the motions were dark, but healthy, the urine was natural. There was slight headache and sense of fullness at the vertex and over the left temple, with some restlessness and sleeplessness. On discontinuing the medicine, these symptoms disappeared in about three days, and on resuming it at the end of a month I felt them return in about ten days' time. Other persons may take the quantity just mentioned without so much inconvenience, but larger doses (one-thirtieth to one-fifteenth grain and upwards) are very liable to disorder the stomach, causing nausea and a sensation of warmth or irritation. The appetite may be at first increased, but in many patients dyspepsia quickly occurs, and nausea, flatulence, colic, or diarrhea hinders the employment of at least the ordinary preparations of phosphorus. A silvery-white condition of the tongue may be caused, and the gums may become inflamed.

Zinc phosphide, in any quantity above one-quarter grain, readily induces vomiting. Gubler, examining the effects of this phosphide upon artificial digestion, found that the phosphuretted hydrogen which was developed arrested the process, and he concluded that the same thing occurred with other preparations of phosphorus taken by the stomach. Thompson attributes gastric irritation to the formation of hypophosphorous acid, and states that he has only seen these symptoms occur after the use of mixtures prepared with a vegetable oil.

Whatever the precise explanation may be, the limit of medicinal and the commencement of toxic doses is marked by more evident irritation of the digestive organs, the mouth becomes tender and sore, the nausea is accompanied with retching, vomiting, and diarrhea; tenderness and enlargement of the liver may be detected, and there is an icteric tint of the skin and conjunctivæ, with irritation of the same.

There is but little evidence of any stimulation to the generative functions, or organs, exerted by phosphorus in healthy subjects, whatever may be its power in

certain forms of disease. The stimulation that has been noted in some cases, both in men and animals, was not special, but merely a result of the general stimulus to the whole nervous system. Leroy, and other French authors have reported some temporary genital stimulation from large doses, and in a few cases of poisoning, irritation, and excitement of the genitalia have been recorded, but they are to be explained as above. Thompson gave to two healthy adults one to one and one-half grains of zinc phosphide daily for eight or nine days, and to another one-eighth to one-sixth grain of free phosphorus until symptoms of incipient poisoning arose, but without any trace of aphrodisiac effect. Eames has reported similar negative results from observations with phosphorated oil, and Bradley's experience is the same effect.

With reference to this point, I have experimented upon twenty healthy men. Ten of them took one-tenth grain daily for a fortnight, five took one-third grain each day for a similar period, and the other five took one-half grain every third day for five successive doses. Slight toxic symptoms occurred in some of the subjects, but, except possibly in one of the last set, no sign of increased sexual excitement was observed. I have, however, seen men from forty to sixty years of age, apparently in good health, but suffering from complete loss of generative power (in consequence either of previous sexual abuse, or of overtaxed brain and nervous system), in whom very small doses, one two-hundredths of a grain, thrice daily, caused weak erections and involuntary emissions, but mental depression was developed to such an extent as to compel the suspension of the drug; this implies a state of irritation of the generative organs, but certainly not one of increased tone or strength.

With regard to its influence upon the uterus, we have evidence that long-suppressed menstruation may reappear under its continued use in small doses, but this may reasonably be supposed to be connected with improvement in the condition of the blood, rather than with specific stimulation; in cases of poisoning, however, uterine hemorrhage and abortion occur. It is said that if pregnant animals be poisoned with phosphorus there is fatty degeneration of the tissues of the fetus.

The urine, under the influence of phosphorus, becomes high-colored; it may be phosphorescent, and have a smell of violets or sulphur, and urea is present in excess. The albumin, which is often present in the urine in cases of poisoning with phosphorus, is probably due to the fatty changes produced in the epithelial cells lining the tubules. Husemann reports the nitrogenous constituents increased in amount, and in dogs poisoned by phosphorus, Bauer found the excretion of urea twenty to ninety per cent above normal; the phosphates are unaltered in quantity. Leucin, tyrosin and sarcolactic acid have been found in cases of poisoning; lecithin is said to be diminished.

Wegner has furnished definite proof that phosphorus stimulates the growth of bone, for after giving minute doses continuously to animals, he found the epiphyseal cartilages ossified more quickly and more completely than usual, and the cancellous and compact bone became more dense, even to the extent of obliterating the medullary canal. He also found that if lime salts were withheld from the food the growth of bone continued, but it was soft in consistence. Kissel could not find any effect of phosphorus on bone structure, though toxic effects were readily produced, together with fibrosis. Maas and Kassowitz support Wegner's observations, and the effect on the jaw shows a special proclivity of phosphorus for bone.

The fact just recorded of phosphorus stimulating the growth of bone, a tissue of which it forms a component part, has led to the inference that it can stimulate the nutrition of nerve tissue, of which, also, it forms a normal constituent; but the evidence on this subject is not very definite. Gubler describes the effect of one-thirtieth to one-fifteenth grain to be a general sense of stimulation more complete than that caused by coffee, more active than that produced by opium. Thompson speaks of it as producing exhilaration and increased capacity for exertion, both mental and physical, and an effect like that of alcohol, without the subsequent depression. He states also that if one-half to one grain be taken in

the course of twenty-four hours the feelings described are more sustained, and transient giddiness or quasi-intoxication occurs. There seems to me some exaggeration in these accounts, but it is within my own experience that a general tonic effect may be obtained from these and smaller quantities of the drug. In cases where poisonous symptoms are developed, marked excitement, tremor, and spasmodic muscular twitching occur, and, in severe cases, cramp or partial paralysis, delirium, convulsions, collapse, or coma.

In accordance with the general excitation already described, the pulse and temperature are slightly raised about an hour after taking doses of one-thirtieth grain; and after such doses, given daily for some weeks, the circulation has been found more equable and more steady than before. Large doses of phosphorus appear to directly weaken the heart; indeed, rapid poisoning is said to cause death by this means; on the other hand, small and repeated doses cause weakness of the heart by producing fatty degeneration of its muscle. Thompson has noted dilation of the small vessels of the skin, and Pal has described a lowering of blood pressure, due to the same cause, *i. e.*, vascular dilatation. In toxic cases the pulse rises to one hundred and twenty or more per minute, and the temperature to 102° to 103° F., though this condition is only temporary.

Sir W. R. Gowers has proved that under the influence of small continued doses the proportion of red blood-corpuscles is increased, at least in lymphoma, and this observation may throw light on the tonic power of the drug. On the other hand, toxic doses markedly diminish the number of red corpuscles, as shown in fowls. The blood in several cases of poisoning has been found deficient in coagulability. This has been ascribed to an indirect effect through the liver and intestines, leading to a reduction in the amount of fibrogen. According to von Jaksch, it diminishes the alkalinity of the blood.

The poisonous symptoms produced are essentially of an irritant and destructive character, but vary in degree, and are often obscure and insidious, probably in proportion to the varying amount absorbed, or the chemical changes which the drug undergoes under different circumstances. Lecorché describes three forms of "acute phosphorismus:" (1) That produced by phosphorated hydrogen, (2) that by phosphoric acid, (3) a mixed form, but the clinical varieties described by Trousseau are of more practical importance; he calls them, (1) the irritant, (2) the nervous, and (3) the hemorrhagic forms.

The irritant form is the most common; it is induced by swallowing match heads, or rat-poison paste, and is accompanied by pain, vomiting, and purging, sometimes with blood and phosphorescence. In the early stages there is pyrexia, with nervous excitement, delirium and delusion, sometimes erotic, though priapism is rare. Twitchings, cramps, and convulsions may occur, but later on follow prostration and collapse, loss of sensation, retention of urine, and partial paralysis, affecting mostly the extensor muscles.

In the nervous form these latter symptoms become more marked, but there is little pyrexia. erythematous spots occur in the skin, which is dry and yellow, and later becomes cold; dilatation of the pupil and strabismus are described, and the fatal termination comes on with somnolence and coma.

The hemorrhagic form is less quickly fatal than the others. In it the ejecta are almost wholly sanguineous; bleeding occurs in and from the skin and mucous membranes, and many parts of the body. It is due partly to the altered state of the blood, and partly to general softening of the tissues, including fatty degeneration of vessels. In women there is uterine hemorrhage, miscarriage, or abortion, but these may be due to the irritant effects on the intestinal canal.

In cases of phosphorus poisoning the liver becomes enlarged, and about the third or fourth day pain is felt over the hepatic region, followed shortly afterwards by jaundice, headache, and sleeplessness; the urine is found to contain bile, and generally albumin, leucin, tyrosin, and sarcolactic acid. The presence of bile is an argument that the jaundice depends not on suppression, but on occlusion of the biliary passages, which is probably catarrhal in character. In exceptional cases (in which, probably, only

a small amount of the poison has been absorbed) there has been neither gastro-enteritis, nervous excitement, nor quick pulse, but the prominent symptoms have been jaundice and hepatic congestion. The time that elapses from the taking of the phosphorus to the appearance of symptoms varies from a few minutes to two days. Death, when it occurs, is usually from asthenia, but the course of the illness is not always steadily progressive; sometimes the severe symptoms subside for a few hours or days, and death takes place suddenly from failure of the cardiac muscle. The fatal dose is one to two grains for adults, but much less for children, in whom vomiting and convulsions are usually the prominent symptoms.

The system has become habituated to the use of phosphorus, to some extent, and a gradual increase of dose may be borne, up to an amount which would not at first be tolerated. Any cumulative action may be explained by the mechanical accumulation of the drug in the stomach and intestines.

Ecchymoses and gangrenous spots have been found in the intestinal tract, together with swelling and softening of the mucous membrane and mesenteric glands, rarely perforation. The viscera are hyperemic and odema and hemorrhagic infiltration affect the skin, serous membranes, and other tissues, especially those of the mediastinum; hemorrhage has also occurred between the spinal membranes, thus accounting for paralysis. In some cases of phosphorus poisoning, there are deposits of pigment of hematic origin in the central nervous system, while the cord shows evidence of either inflammatory irritation or diffused or central myelitis, according to the amount taken. The blood itself is black and viscid, and in many cases, even during life, the corpuscles are destroyed and the hemoglobin altered, so that it will not show the usual spectrum; in others, the corpuscles have been found normal after death, and the blood pigment unchanged; in all cases the blood and the solid organs contain an increased proportion of waste products, such as urea, creatin, sarcolactic acid, leucin and tyrosin, whilst fatty degeneration affects every tissue. The muscles, including the cardiac, are discolored, soft and fatty; the vascular walls are degenerated in a similar manner, the gastric glands and renal tubules are choked with fatty epithelium, and the liver especially is enlarged, yellow in color, and its cells filled with fat globules; for, in protracted cases, degeneration of the cells occurs. That this is a true degeneration, and not simply a deposit of fat, is corroborated by finding, in sections of the liver and kidney, that the structure is entirely obliterated by ether. It is possible, as a consequence of this degeneration, that the glycogenic function of the liver is abolished.

The condition described resembles that found in acute yellow atrophy of the liver, and the question of diagnosis has been raised in medico-legal cases. An illustration of this is recorded by Surgeon-Major Martin, in a man admitted to Netley Hospital without any history of poisoning, whose case was diagnosed as acute yellow atrophy, and it was only after death that the real fact was disclosed by examination. A frequent, if not invariable, result of chronic phosphorus poisoning is to establish cirrhosis of the liver, kidney and stomach. This cirrhosis is probably due to a direct effect on the fibrous tissue.

Fatty degeneration was found in the tissues of frogs and rabbits within two or three days after giving phosphorus, and its occurrence in phosphorus poisoning has been amply demonstrated. In Tamassia's experiments it was very rapidly produced. He injected three, four, five, six grains, respectively, into the rectum of four animals (dogs and rabbits); toxic symptoms occurred in about fifteen minutes, death in eight hours (the temperature falling 8° F.). In all four of the animals the kidneys, and in two of them the liver also, were in a state of fatty degeneration.

The best antidotes for phosphorus are sulphate of copper and ozonized oil of turpentine. With any soluble salt of copper, phosphorus forms a black phosphide, which is not poisonous; and as copper sulphate is also a good emetic, it is especially available for cases when the poison has been taken by the stomach, and when the remedy can be given soon afterwards.

Five grains should be given every two or three minutes until free vomiting is induced, and then either continued in small doses with opium, or turpentine substituted.

When oil of turpentine is brought in contact with phosphorus at a suitable temperature, a crystalline white solid is formed—terebinthino-phosphoric acid—which is not poisonous. To produce this result, the oil must come into direct contact with phosphorus in the stomach, in the proportion of about one hundred parts to one of the latter. It should be given in forty-minim doses in mucilage, every fifteen minutes for an hour. Eleven hours is the longest time that has elapsed before the administration of the remedy in successful cases. It is not every kind that acts well; the pure rectified oil, and much of that sold as German and American, do not form the crystalline acid, and hence a difference in the results of observers. It is the crude acid, French oil, or that which has been ozonized by long exposure, which gives reliable results. Milk lessens its good effects, and other fats and oils must be withheld, as they dissolve any phosphorus which may be in the alimentary canal and facilitate its absorption.

A case illustrating the value of both the antidotes recommended occurred in my practice some years ago. A young man swallowed some pieces of solid phosphorus, and, whilst his friends were gone for assistance, gashed his throat and body with a razor. When I saw him the most pressing need was to stay hemorrhage, and while copper sulphate and turpentine were being procured, mustard and water was administered. This and the copper produced free emesis, with rejection of a piece of phosphorus two inches long. I then gave turpentine in milk and water, and still encouraged vomiting, because from the small pieces left in the patient's bottle of phosphorus more was thought to have been taken. Eventually, two other pieces, one and one-half inches and one-half inch long, were rejected, after having been in the stomach at least three hours; after several more doses of turpentine the patient made a good recovery.

A case is reported of a man who swallowed one hundred and twenty match heads, and then took turpentine to increase the effect; he did not vomit, but recovered. The subject has been investigated by Bush, who gave to various animals, poisoned by phosphorus, emulsion of turpentine an hour afterwards, and with good result.

[Written for the MEDICAL BRIEF.]

Calculous Pyelo-Nephritis with Report of Case.

BY O. H. KELSALL, A. B., M. D.,

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The term pyelo-nephritis signifies an ascending septic inflammation, the kidney becoming involved secondarily to the renal pelvis. The exciting and predisposing causes of pyelo-nephritis are the same as those of simple pyelitis. They are:

1. Traumatism.
2. Infectious diseases.
3. Exposure to cold.
4. Irritating diuretics.
5. Nephritis.
6. Pyelitis itself, as in the case reported below.
7. Venous congestion due to any cause.
8. Perinephritic inflammation.
9. Irritation by gravel or calculus.
10. Tuberculosis, malignant disease or parasites.
11. Cystitis, particularly when associated with obstruction.

As to renal calculus there are various causes assigned, such as too great concentration of urine, caused by high living, combined with lack of exercise; gouty diathesis, etc. While the writer has never tested the matter he believes that just as in gall stones we always have a small colony of bacteria forming the nucleus of the stone, that we can and do have in renal stone bacteria forming such nuclei. That old, uncured cases of gonorrhea are more frequently a cause of ureteral and kidney disease than is at present realized.

The writer has been struck by the number of cases in his own practice presenting kidney symptoms, especially symptoms of calculi, giving a history of gonorrhea.

Pyelo-nephritis may be acute or chronic. The acute form is characterized by the sudden onset of a chill, followed by high fever and accompanied by severe pains in the back. Delirium is often present. The patient passes into a typhoid state; the tongue is dry and heavily coated; stomach very irritable; sweating is quite profuse; there may be persistent vomiting and hiccoughs, mental dullness, deepening into coma and finally death. The acute form is usually fatal in ten days to two weeks. The symptoms are due in part to septic intoxication and in part to uremia. All cases do not end fatally; some gradually improve and enter into the chronic form of the disease. Exceptionally, there is hematuria slight in degree and, rarely, marked hemorrhage, which, when it occurs, is usually due to calculus.

Treatment.—Prophylaxis is very important. The diet should be liquid, and plain diuretics should be used with counter irritation over the kidneys; also hot fomentations. This treatment should be combined with the use of laxatives. Where we have a pyelo-nephritis the use of urinary antiseptics is necessary, and when a calculus is present nephrectomy or nephrotomy is indicated.

Case 1.—On January 15, 1905, about six A. M., I was called to see a patient suffering excruciating pain, beginning in his back on the left side and running down into the groin. Prior to this attack he had been in his usual health. He was very sensitive to palpitation over the kidney, both in front and behind, and also over the course of the ureter. After the attack of pain, which lasted some hours, he voided a few ounces of urine and following this a period of total suppression for fourteen hours. The pain was so severe that it was necessary to relieve it by hypodermic injection of morphine. He seemed to be in a stupor, but could give rational answers to questions concerning his condition. When the suppression of the urine supervened he was placed in a hot pack and kept there at intervals. Hot fomentations were made to his back and he was given laxatives. At the end of fourteen hours the urine again began to flow and on examination of the specimen obtained by catheterization an extraordinary amount of pus was noted, the specific gravity was low and there were many granular casts.

His symptoms showed the presence of uremia and also a condition of septicemia. The heart was found to be dilated, pulse very thready, weak and rapid, and at times imperceptible; at various times during the following month there was a marked amount of hematuria. Extract of witch hazel was administered for this hematuria and the effect was remarkable and noticed almost immediately; it did not control the hematuria entirely, but diminished the amount of blood in the urine, then the active principle of the supra-renal glands was added to the witch hazel. The circulation was stimulated every two hours by the administration of cardiac stimulants hypodermically. About four hours after I first saw the patient he had a sensation as of a foreign body passing into the urethra; this was evidently a small stone, as he noticed it when it splashed into the vessel. This patient had been treated by a local surgeon for bladder trouble, but the treatment directed toward this condition seemed to have little effect. The urine of this patient for a year prior to this attack had been muddy in appearance and of a very strong odor, and when passed into a glass and allowed to settle the sediment would result in one-fourth of the entire amount. He had had pain in his back and both sides intermittently for a year and a half, but otherwise seemed to be in good health. He was of a phegmatic disposition and inclined to minimize his suffering. Under treatment the strong odor and pus disappeared from the urine. Under administration of cardiac tonics his heart improved and again performed good service, the symptoms of uremia and septicemia gradually became less and the patient improved in every way. Some pus still remained in the urine. He was allowed to leave his room in about five weeks and two weeks afterward he was able to resume his business. He was never without pain, which he described as slight, over both kidneys, and a marked tenderness can be elicited by palpation, both anterior and posterior, even at this time, almost a year after the onset of his acute symptoms.

In view of the fact that treatment does not entirely get rid of the pus in the urine, and that the tenderness is constant, it is reasonably certain that there still remains one or more calculi within the pelvis of the kidney.

An examination was made of the urine from each kidney by means of the Luys's instrument, which divides the bladder symmetrically into halves, allowing the urine to be catheterized from each side as it flows down from the kidneys. This examination revealed the fact that the urine from each kidney was practically the same, there being but a very slight difference in the specific gravity. This patient reluctantly admitted an early gonorrheal infection. From the history of the case it was very evident that my patient had an ascending infection which probably dated to his old neglected case of gonorrhea, the kidneys becoming secondarily involved from the ureters; and that the kidneys becoming secondarily involved resulted in an interstitial nephritis which had probably existed for several years, and been overlooked. This nephritis affected the circulation secondarily, causing the heart to weaken. Although I advised my patient to submit to ureterotomy, he has steadfastly declined to do so. In my opinion, if this were done and the calculi removed, he would be reasonably certain of a fair state of health for a good many years to come, but in his present condition, although able to attend to his business, it is to be expected that the trouble will again have an acute exacerbation. Some other complication, as double pyelo-nephritis, will result in his death. The important feature in this case is that while seemingly hopeless at the outset, by good nursing and the administration of appropriate remedies, we were able to relieve his condition and restore him to a far state of health.

1437 Chestnut Street.

I can not do without the BRIEF, so continue to send it. The good advice obtained from the MEDICAL BRIEF is very valuable to one whose time is given to the sick room. The articles on typhoid fever have been especially interesting and very beneficial to me.—MRS. CLARA I. HODGE, Professional Nurse, Racine, Wis.

[Written for the MEDICAL BRIEF.]

Operation for Bright's Disease.

BY FRANK ELLIOTT, M. D.,

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Miss M., thirty years of age, gave a history of Bright's disease. One member of her family, on the maternal side, died from Bright's disease, and her father died from cancer of the bowel.

On examination of the urine, I found twenty grains of albumen to the ounce. Operation was suggested and approved.

The usual lateral incision was made just under the rib. The kidney was found three inches below its normal position, the space it had formerly occupied having filled in with fat. I brought the kidney up through the opening and found that the capsule was so much degenerated that it slipped completely off the kidney. Beneath this there was a large quantity of mucus. I opened the capsule and enucleated the kidney, dissected out the fat, which filled the original bed of the kidney, and fastened the capsule with mattress sutures.

I then turned the kidney half way around upon itself and brought up the bowel through the peritoneum, and examined the appendix, which I believed to be diseased. I found a very large appendix, nearly, if not quite, one-half inch in diameter. This I ligated, amputated, and replaced the bowel.

The only point of difference between my operation and the operation most usually employed, is on the question of drainage. I used absolutely no drainage, but closed the peritoneum and tissues with No. 2 chromicized catgut. The kidney was returned to its normal position and firmly imbeded there by ligatures. The upper ligatures were passed around the twelfth rib, and were firmly ligated in that position. Sutures were also placed in the capsule at the base of the kidney and attached to the muscular structure. Two small tears in the kidney were repaired with No. 2 chromicized catgut, sewing with a straight, round needle, with no cutting edge. The wound was closed by three layers of chromicized sutures,

the skin being closed by uninterrupted subcutaneous stitches.

No drainage at any point was used. After the second day no albumen was found in the urine. Five days after operation the dressings were removed and the wound was found to heal by first intention. The patient never had at any time a greater rise of temperature than three-fifths of a degree. Recovery uneventful.

Missouri Building.

[Written for the MEDICAL BRIEF.]

The Diagnosis and Treatment of Rubeola.

BY CHAS. F. SHOLLENBERGER, M. D.,
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In forming a diagnosis of measles one of the first essentials is to inquire carefully into the history of the case. Is the disease epidemic, is there a history of exposure, when was the child taken sick, what were the preliminary manifestations, are all questions that should be asked and carefully weighed before the eruption itself (if it has already appeared) is taken into consideration. These questions satisfactorily answered, the careful physician will wait until the eruption appears before giving a positive diagnosis.

To the young physician I would say: Do not be too hasty in forming a diagnosis. Wait until a sufficient number of distinctive symptoms have shown themselves before you pass an opinion as to the nature of the disease. In other words, if called in early, do not be afraid to tell the parents that sufficient time has not elapsed since the onset of the disease to give a diagnosis, and that your visits may have to be repeated several times before you can do so.

A sign of considerable importance is the appearance of an eruption designated as "Koplik's spots" on the buccal surface. It shows itself in the form of a bluish-white speck upon a red ground and is usually found at the inside of the cheeks opposite the molar teeth, although they may be present in any part of the buccal mucous membrane. They are of diagnostic value in that they do not show in any other disease and will often assist in foretelling the nature of the disease from one to three days before the eruption appears.

Sometimes there are only a few spots present and at other times the entire buccal mucous membrane is covered with them.

Other important symptoms are the coryza, the gradual rise of temperature, the time required in the appearance of the eruption, the appearance of the eruption itself, as differentiated from scarlet fever, variola or rubella.

Probably rubella is more easily mistaken for rubeola than any other disease. In rubella the eruption appears in from twenty-four to thirty-six hours, seldom later. It often disappears from parts first affected before showing on other portions; the spots present no tendency to form crescents or grouping.

The lesions in measles are always larger than in rubella and develop more slowly than in the latter disease.

In rubella the superficial lymphatic glands of the neck are nearly always involved, an uncommon occurrence in measles.

Space will not allow me to differentiate the disease with other eruptive processes. Again let me repeat, when in doubt, wait until definite symptoms have developed.

Treatment.—The first thing necessary in the treatment of measles is prophylaxis. Strict quarantine should be observed. The great danger lies in the fact that being considered a mild disease in the minds of the laity, the presence of the disease is often concealed and no efficient means are used to prevent its spread.

Every case, mild or severe, should be isolated. The old opinion that children should be exposed to the disease when quite young, to prevent a more severe attack in adult life, has proven to be a fallacious one. Parents should be taught that measles is a highly contagious disease, that it is dangerous to life and that it is a very frequent cause of deafness and other organic and functional defects. I believe that measles and its complications cause twice as many deaths as scarlet fever.

As soon as the disease is recognized the patient should be placed in bed in a well-ventilated room where pure air may be easily admitted, the room kept at a temperature of about 68° to 70° F. The mistake is too often made of having the room entirely too warm. Care should be taken to exclude too strong a light, yet the room should not be darkened as is so often done. Avoid draughts of air, but the free circulation of pure air is very essential. See that the patient is kept clean and that the excreta, urine and feces are promptly and properly disinfected.

An ordinary uncomplicated case requires very little in the way of medication. It is the complication which causes most of the trouble and demands our careful attention—hence, to prevent complications, keep the patient in bed until the desquamation, slight or severe, has disappeared. This may require enforced confinement for ten days or two weeks, but will well repay the physician in the lessened frequency of complications and consequent fatal cases.

High fever may be treated by warm sponge baths or even the full bath may be given, of course avoiding sudden chilling of the body. Give plenty of cool water for the excessive thirst of which patients so often complain, or a weak lemonade may be substituted.

The diet should be simple but nutritious and suited to the age and general condition of the child.

A formula which I have found to give good results both in allaying fever and lessening the severity of the cough is as follows:

℞ Tinct. Aconiti.....32 drops.
Antipyrin.....32 grains.
Liquor Ammoni Acetatis..... 1 ounce.
Syr. Pineapple.....ad q. s..... 4 ounces.
M. Sig.: Teaspoonful dose every two to four hours to a child three or four years old.

The use of cold compresses over the forehead and to the back of the neck will frequently reduce the fever and allay nervous manifestations. The cough in measles is ordinarily a dry, painless one, and requires little if any special treatment. If the symptoms require it, a stimulating expectorant may be given.

The excessive itching which occasionally accompanies the eruption of measles may be relieved by hot water sponging or a one per cent solution of menthol in aqua rosa.

Complications.—It is the complications and anomalous cases that will require our most careful remedial attention, hence we should always be on the watch for such possibilities. We should remember, however, that complications should be treated as though they were the original disease, plus sustaining remedies, from the very onset.

Conjunctivitis, laryngitis, broncho-pneumonia should receive careful attention. The physician should be ever on the alert for the appearance of broncho-pneumonia, for this is certainly the most dreaded of all the complications. Corlett says the principles involved in the treatment of the complications are "to supply the lungs with oxygen, to support the heart's action, and to maintain the temperature as nearly normal as possible."

For the diarrhea of measles, the various antiseptic and astringent remedies will suggest themselves. Treat other complications as they may arise.

For the protracted convalescence which we often see in measles, tonics are indicated. It may often be necessary to seek a change of climate. Keep the patient in bed during the development and decline of eruptive stage and you will have less liability to congestions.

2309 Larimer Street.

[Written for the MEDICAL BRIEF.]

Enuresis.

BY FRANK H. WEISS, M. D.,

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Incontinence of urine depends essentially upon the nervous system, inasmuch as the normal act of micturition is a nervous manifestation. To appreciate why enuresis is of such frequent occurrence during infancy—physiologic—and childhood—pathologic—an understanding of the pathology and physiology is essential.

The center of micturition is situated in the lumbar enlargement of the cord, and its activity is manifested by sending out impulses along centrifugal nerves to the

bladder, causing relaxation of the sphincter and contraction of the muscular coat, with consequent voiding of urine. The center itself is presided over by two main influences; first, impressions from the brain which pass along fibers situated in the cross pyramidal tracts of the cord which have an inhibitory, or restraining, influence. It is by virtue of this that we are able to control or retain the urine at will. Second, impressions coming from the periphery mainly from the bladder, reflex in character, by virtue of which the center is thrown into action.

At the time of birth the cross pyramidal tracts are not completely invested with myelin, showing their impartial state of development, and the cortical cells of the brain are also in a primitive state. In consequence of this the reflex center is not presided over by the brain, the controlling influence is wanting; the micturition center, like other spinal centers, has full sway, thus we find the infant largely a reflex being. During the first and greater part of the second year incontinence of the urine is a physiologic condition dependent upon the not-yet-developed inhibitory influence; coincident with the development of the cross pyramidal tracts and the cerebral centers the child obtains control over its bladder, this being sufficiently complete by the end of the second year, so after that time an existing incontinence becomes pathologic.

If we disregard causes which are destructive to the brain or cord, such as organic disease or arrested development, or causes resulting from imperfections of the bladder itself, we can clinically divide the etiology into two main groups. First, central, that is, those causing an unstable nervous system, and second, peripheral; which act reflexly by excessive stimulation. The central causes act by producing feeble cerebral inhibition or excessive irritability of the spinal center itself, resembling again the infantile state.

An enuresis is often only one of the many manifestations of an unstable nervous system. An unstable nervous system may be inherited or acquired. In inherited cases it is not uncommon to obtain a family history of well-marked neuroses, as in the following case:

Case 1.—H. R., nine years, male. On maternal side, an aunt had chorea at the age of sixteen; grandmother enuresis during childhood; mother enuresis until the age of fourteen years, during entire period of adolescence she had a dry incessant cough which her father, a physician, stated she "would have to wear out," and on account of same she was compelled to stop school. At the present time she presents other stigmata of hysteria, such as anesthesia, vertigo, palpitation, tenderness over the vertex, flushing of the face, dysmenorrhea. Personal history: Born at term; weight, six pounds; bottle fed, but thrived; however, once having, during infancy, an attack of convulsions following overfeeding during summer. Since the first year no restriction was placed on his diet and he was permitted to indulge freely in coffee and tea. When three years old convulsions; at the age of six he developed nocturnal enuresis, for which he was circumcised with no result, bed wetting having continued. Almost daily he was compelled to leave the school room because of the desire to urinate. During the last year frequent attacks of night terrors, nightmare type; from time to time painful contractions of the calves, the mother speaking of it as "drawing up of the leaders," and knotting of the muscles, which were relieved by hot applications and rubbing. For the last two years he has had a cough paroxysmal in character, so severe at times as to cause him to become blue. On account of the annoyance to his classmates by the frequent and severe cough, his teacher requested him to leave school and seek medical treatment. Examination showed a fully developed child, easily frightened; throat and lungs normal; heart action rapid and tumultuous and irregular; abdomen soft and flat; temperature normal. Glancing at this history it is obvious why satisfactory results did not follow circumcision, the enuresis being but one manifestation of an irritable nervous system, which was mainly due to heredity.

The acquired causes of an unstable nervous system are numerous. Adenoids (insufficient oxygen), over-pressure at school, unhygienic surroundings, etc., but

especially malnutrition resulting from weak digestion and improper food.

Case 2.—Mattie S., age eleven years. Family history negative. Breast-fed during infancy, since then permitted to eat most everything. Present diet consists mainly of potatoes, uncooked cereals and bread, very little fruit and meat. She has always been very nervous and for this reason did not start to school until nine years old. Two years ago she had an attack of screaming at night, which was followed by bed-wetting, the nocturnal enuresis, having continued ever since. She has always been subject to constipation, stools white in color, breath bad, and capricious appetite. Defective eyesight, which necessitated her wearing glasses. She was very badly nourished, extremities cold, abdomen protuberant owing to the presence of gas. She was placed upon a diet consisting of scraped beef, broth, eggs, milk and cream, excluding entirely starchy food, and given internally an occasional cathartic and atropin daily. Improvement began after the first week and at the end of two months she had gained ten pounds in weight, the bed-wetting having entirely ceased. The appearance and behavior of the child had entirely changed; she no longer needed her glasses. In this case the unstable nervous system depended upon malnutrition which was the result largely of an amylaceous indigestion.

The reflex causes may act by irritation of the nerve endings in the mucous membrane of the bladder or nerve terminals in its vicinity, such as the genitals, skin or rectum. Excessive stimulation of the mucous membrane of the bladder may be the result of calculus, cystitis, acid urine, or too large a quantity of the urine.

Case 3.—Jettie L. Family history: Mother had enuresis during childhood, at present some of the stigmata of hysteria. Personal history: During the last year has had a great thirst, drinking nearly one gallon of water daily and wetting the bed every night. Appetite not abnormally great nor capricious, no constipation. Physical examination showed a strong, well-nourished child. Skin moist, urine specific gravity 1009, pale, neutral, no sugar or albumen. The amount of water consumed was restricted, especially in the evening. Subsequent history taken three weeks later was that the enuresis had occurred only four times. In this case it is obvious that the enuresis was the outcome of an overfilled bladder, due to excessive drinking of water.

To appreciate how irritations in the neighborhood of the bladder act, one must remember the free inter-communication of neurons of the spinal cord. The micturition center is in physiologic communication with neurons originating from the genital organs, skin and rectum. Thus irritations of the rectum, such as thread worms, the skin, as in scabies or eczema, the genitals, as in vulvo-vaginitis or phimosis, may reflexly produce enuresis.

Case 4.—E. W., male, aged three years. Family history negative. Personal history: Never has had proper control over the bladder. Enuresis both nocturnal and diurnal having existed from birth. The child was strong and well nourished. The labia of the penis were turgescent and swollen and when the foreskin was retracted it pulled the labia downward and backward owing to the presence of a short frenum. Circumcision was advised.

Treatment.—In the treatment two main indications present themselves, the removal of any source of reflex irritation and the relief of any instability of the nervous system. In order to determine the existence of any reflex trouble a careful examination of the urine, genitals, skin and rectum is necessary. In neurotic children the reflex cause may be very slight. To improve the instability of the nervous system requires time, weeks and even months, the most difficult cases being those with a strong hereditary history; the most curable, those secondary to chronic indigestion, yet in all cases as the nervous system develops, control over the bladder is eventually obtained. Excellent results follow the institution of a proper regime and by the use of drugs.

Diet.—Animal food, instead of being contraindicated, is demanded, proteids so essential to life, their main functions is to build up cellular structure and replace wear and tear. Beef, broths and milk

are the most valuable nitrogenous food and especially indicated where indigestion exists. Fats are not only a source of energy, but also needed for the growing neurons. This is especially evidenced in early life, its absence from the food being a most important cause of rickets. Cream is the most valuable form and can be given daily to the extent of half a pint in milk, over thoroughly cooked cereals and fruit. It is a laxative, hence has a double value where constipation exists. Carbohydrates, especially potatoes, poorly cooked cereals, are prone to fermentation and are a frequent cause of chronic indigestion with constipation and consequent malnutrition; therefore, should be avoided or limited. When chronic indigestion exists, of course, indigestible articles of food such as pastry, nuts, pork, sausage, and stimulants such as coffee, tea, alcoholic beverages, should be excluded. Fruits may be given freely.

Hygiene and Drugs.—It has been shown in the "resting" muscle the amount of blood circulating in it during one minute amounts to seven and one-half per cent of its weight, and in the active muscle it is increased about five times its weight. This is sufficient to show what massage, outdoor exercise, gymnastics, and baths (cold), will do in building up the nervous system. Over-pressure at school, mental excitement of any sort should be avoided. Of the drugs, belladonna is by far the most effective. The most convenient way for its administration is after the method of Watson: Atropin in solution one grain to two ounces, one drop for each year of the age, to be given three times daily. Some children are very susceptible to belladonna, and in them it is distinctly injurious and should be discontinued.

Case 5—R., age six years, son of a medical student. Enuresis during last two years. After the administration of belladonna in above doses the mother noticed that the child acted queerly, talked incoherently, pupils were dilated and face flushed. Belladonna was discontinued.

Deardorff Building.

[Written for the MEDICAL BRIEF.]

A Study of the Blood Cells and Their Origin in the Primary Blood Diseases.

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A thorough conception of the science of primary blood diseases depends chiefly on the knowledge of the blood cells and the physiology and pathology of the blood-forming organs. Without such knowledge it is impossible to understand or appreciate why the blood presents certain characteristic changes or abnormal pictures in the so-called blood diseases. The blood, like other tissues of the body, constantly undergoes wear and disintegration, both physiological and, at times, pathological. We have often observed that after severe hemorrhages or certain diseases causing considerable loss or destruction of blood and more or less rapid return to normal occurs. To restore this lost tissue, processes of repair and regeneration are just as necessary and as active in the blood as in any other tissue.

The blood as a tissue is, perhaps, one of the most complicated of the body; not only in regard to the multiplicity of its constituents, but, likewise, regarding its irregularities and peculiarities in its methods of regeneration.

Omitting any consideration of the liquid portion of the blood, we note that there are two distinct classes of cells present, the red cell or erythrocyte, and the white blood cell, or leucocyte. It follows, therefore, that we must find two systems necessary to restore the lost cells, one to manufacture the red cells, which we shall call the erythroblastic apparatus, the other to manufacture the white cells, or the leukoblastic apparatus.

In the adult three kinds of tissues are concerned in the manufacture and regeneration of the blood cells, viz., the bone marrow, the spleen, and the lymphatic system. The lymphatic system has a simple function of manufacturing only white cells; the spleen and bone marrow have a combined function of manufacturing both red and white cells.

In the normal circulating blood, roughly speaking, we have only one type of red

blood cell, the erythrocyte or normocyte, a rounded, disc-shaped non-nucleated cell, containing hemoglobin. The red blood cell originates, however, in the bone marrow and spleen as a nucleated cell of a more or less irregular size and shape, which contains hemoglobin. This nucleated cell, we might say, is the young, unripe form of red blood cell. Normally, these cells lose their nucleus and assume a definite size and shape before entering the circulation. The red cell thus reaching its stage of highest development, and becomes ready to carry on its function as an oxygen carrier. The abnormal types of red blood cells, which are found in the blood, are the young, unripe forms of red cells, either nucleated or irregular in size and shape, viz., irregular shaped, non-nucleated cells, first the microcyte, a non-nucleated, round cell, smaller than the normal. Second type, the megalocyte, a non-nucleated, rounded cell, larger than the normal nucleated cells. First, normoblast, a nucleated round cell, about normal size. Second, microblast nucleated round cell, smaller than normal. Third, megaloblast, a nucleated rounded cell, larger than normal, and, lastly, poikilocytes of irregular and unusual shapes, pear shaped, ovoid, elliptical, etc. These may be either nucleated or non-nucleated.

The white cells, though only appearing in normal blood about one to seven hundred and fifty reds, are present in five different varieties or types, and as a rule bear definite proportions to each other.

These five varieties are, first, the lymphocyte, a small round cell about the size of a red blood cell, with a very large nucleus filling out almost the entire cell, but surrounded by a small amount of clear protoplasm. This variety of leucocytes constitutes about twenty to twenty-five per cent of the total number.

The second type, the large mononuclear leucocyte, which constitutes only about one or two per cent of the total number, a cell which is three or four times the size of the lymphocyte, with a single ovoid nucleus, and a relatively larger amount of protoplasm than the lymphocyte.

The third type, the transitional leucocyte, presents in about one-half per cent of the total number a cell practically the same as the preceding. It is a cell which is so named because the nucleus is deeply indented, apparently, ready to change from the second variety of the leucocytes spoken of to the fourth form, viz., polymorphonuclear, or the polynuclear leucocyte. A cell about the same size as the mononuclear, but with a multi-shaped nucleus, apparently several nuclei. The amount of protoplasm is relatively larger, and this protoplasm is filled with a number of fine granules. Some cells, containing granules which stain with neutral dyes, are hence called polymorphonuclear neutrophiles. Other granules stain with acid dyes or eosin, and are hence termed polymorphonuclear eosinophiles, the fifth variety of leucocytes. In the eosinophilic polymorphonuclear cells another peculiarity is that the granules are larger than in the neutrophilic cell. The neutrophilic cell constitutes sixty-five to seventy per cent of leucocytes, and eosinophilic two to five per cent. Another variety of the polymorphonuclear cells, although never found in perfectly normal blood, is closely related to the foregoing type of cell, viz., the basophile. This cell is peculiar, in that its granules take up only basic stain. This stain, however, in the usual methods of staining is dissolved in the water and, therefore, the granules appear white, or as vacuoles within a protoplasm of the cells.

To simplify the study of the leucocytes we should consider that we have only two classes of leucocytes, viz., the lymphocytes and the polymorphonuclear cells, and regard the large mononuclear as unripe or not fully developed forms of the latter classes. The lymphocytes originate in the lymphatic system, the lymph glands, the tonsils, the follicles of the intestines and Peyer's patches, the Malpighian follicles of the spleen, and also in the bone marrow. These are extruded through efferent ducts of the lymph glands into the lymph channels, thence by means of the ducts thoracicus into the general circulation. Pathological forms of lymphocytes vary but slightly from the normal forms, being occasionally either slightly larger or staining very irregularly. The polymorphonuclear cells, on the other hand, originate in the so-called myeloid or myelogenic tissue, which

is found in the spleen and bone marrow. It is a complex tissue, producing not only a number of normal varieties of white cells already described, but when diseased conditions of this tissue are present, producing, also, a number of unripe forms of the polymorphonuclear cells, since this myelogenic tissue lies, so to say, side by side with the erythroblastic tissue in the bone marrow and spleen. Unripe and undeveloped forms of red blood cells are also extruded into the peripheral circulation, when disease occurs in this tissue. The pathologic or unripe forms of these cells are called myelocytes, marrow cells. These cells are about the same size as the polymorphonuclear, but have a large, single ovoid nucleus, which stains poorly. The protoplasm of this cell usually stains darker than the protoplasm of the normal cell. If the protoplasm of the myelocyte contains neutrophilic granules, it is called a neutrophilic myelocyte; if it contain eosinophilic granules, a eosinophilic myelocyte; if no granules, a simple myelocyte.

Retaining the foregoing facts in mind, we can readily understand why the blood presents certain characteristic pictures in diseases of the blood-forming organs, or in the so-called primary blood diseases, and at the same time we are able to draw up better and more expressive definitions of these diseases. For example, we might define leukemia as a disease of the leukoblastic apparatus, due to some unknown cause, characterized by hyperplasia of the leukoblastic tissue, resulting in tumor formation of this tissue, and at the same time extrusions of unusually large numbers of the ripe and unripe form of lymphocytes into the circulating blood. If the lymphatic system alone is involved, the hyperplasia of the lymph tissue may be either universal or regional. The numbers of the lymphocytes, as a result of this extrusion, is gradually increased, often reaching one thousand times the normal number. The normal proportion between this form of leucocytes and the other types is greatly disturbed. This is lymphatic leukemia.

If the myelogenic or myeloid tissue is diseased we have hyperplasia of the spleen, and, likewise, hyperplasia of the bone marrow, shown clinically by pain, and histologically by a predominance of the myeloid tissue in the bone marrow over the other normal constituents, resulting in an extrusion of enormous numbers of the ripe and unripe forms of the second class of leucocytes, the polymorphonuclear. This constitutes myelogenic or myeloid leukemia.

Taking up the red blood cells we can regard only one disease as a primary blood disease, *viz.*, pernicious anemia. It differs from leukemia in that no tumor formation is found in the erythroblastic apparatus. We might define it, however, as a peculiar disease of the red blood cells or erythroblastic apparatus, due to some unknown cause, characterized by rapid and continuous destruction of the red blood cells, and as a result of nature's effort to combat this loss of cells to repair the lost tissue, numbers of both ripe and unripe forms of the erythrocytes are thrown pellmell into the circulation, nucleated, irregular-shaped cells, and poikilocytes.

The regeneration of the blood after severe acute hemorrhages, likewise owing to the strenuous and rapid effort which nature makes to overcome this loss and to restore the integrity of the blood, numbers of unripe red cells appear in the blood. These, however, disappear within a comparatively short time, and the blood assumes its normal aspect.

Multiple metastases of carcinoma in the bone marrow, by their growth, cause large numbers of ripe and unripe forms of both erythrocytes and leucocytes to be extruded into the circulation, presenting, possibly, a very confusing aspect of the blood. The presence of anemia, or absence of the clear-cut pictures of leukemia and the clinical symptomatology, gives us an index as to diagnosis of the disease.

Still another confusing admixture of ripe and unripe forms of red and white blood cells is found in the anemias of infancy and early childhood. Here regeneration is very active, and large numbers of nucleated cells and unripe forms of white blood cells are found in the blood, often owing to slight provocation. At this period of life these conditions, ordinarily, do not indicate any severe or grave condition.

715 Fourth Avenue.

[Written for the MEDICAL BRIEF.]

Treatment of Fractures of the Lower Leg.

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Treatment of fractures of the lower leg, like all fractures, involves three things:

1. Accuracy in diagnosis.
2. Accurate apposition of the fractured surfaces; and
3. Perfect immobilization of the fractured parts.

Accurate diagnosis of fractures of the lower leg has been made easier for the surgeon since the advent of the X-rays, and the man to-day who jumps at conclusions without regard to the nature of the fracture of the lower leg, is guilty of gross carelessness, when he has at hand such an easy and effective means of diagnosis.

The greater number of these fractures are oblique in character and, as a rule, involve both bones. The line of fracture in the fibula is of secondary importance. That which concerns the surgeon mostly is the line of fracture of the tibia.

The line of obliquity is most apt to be from before backward, and from below upward.

The oppositions to reduction are, in the first place, contraction of the muscles attached to the bones, and, in the second place, interposition between the fractured surfaces of connective or muscular tissue. It is the latter which causes the greatest difficulty in the proper adjustment of the fractured surfaces. Muscular contraction can usually be overcome by proper extension and counter extension, but no amount of extension or counter extension or manipulation will overcome the secondary obstacle towards reduction. The interposition of foreign material between the fractured surfaces is, likewise, one of the most prominent causes of delayed union, or non-union, in fractures of the tibia. In view of that fact it seems wise to most surgeons to subject cases of this type to operative interference in the matter of treatment.

Ordinarily an oblique fracture of the tibia requires nothing in the way of treatment other than proper immobilization of the fractured surfaces. This, to my mind, is best accomplished by the use of plaster of paris dressing. It is not my custom to use the ordinary plaster of paris bandage, as commonly used. My plan is to apply a plaster of paris dressing, made of six or eight thicknesses of the gauze, varying in width from four to six inches, according to the size of the leg with which one has to deal; this strip being made long enough to reach from the knee on one side down the side of the leg, beneath the sole of the foot, and up on the opposite side to the knee. This strip, which has been soaked with liquid plaster of paris, is applied directly to the skin without interposition of cotton or other material. It is to be held in place by a gauze bandage and applied in a number of thicknesses from the toes to the knee. The plaster strips contain sufficient plaster of paris to saturate, also, the bandage which is applied to retain the plaster strips in place. This thoroughly incorporates the plaster of paris in the roller bandage. This makes a dressing which, when moulded to the leg, fits every irregularity and surface, and exercises no undue pressure upon any prominent point, and absolutely immobilizes the site of fracture.

When the swelling, which naturally exists in all fractured legs, subsides, the splint can be tightened by merely using another roller bandage and taking up the slack. Should swelling take place after the splint is applied, the splint is easily loosened by cutting that portion of the roller bandage which lies between the two plaster strips in front, thus allowing pressure to be taken from the leg, and a new roller bandage can be applied.

This dressing I have used in nearly four hundred fractures of the lower leg, and it has given entire satisfaction in all cases. Should one be uncertain as to the apposition of the fragments at any time, by slipping the roller bandage in front the crest of the tibia is always open to inspection.

This same dressing can be used in all cases of Pott's disease, and in fractures of the bones of the lower leg at any point. When the fractures exist in the upper

third the dressing had best be carried to the middle of the thigh, thus immobilizing the knee joint.

In all cases where the apposition of the fragments can not be obtained by extension or immobilization, an open incision down to the line of fracture is demanded, for in most of these cases one will find muscular tissue, or connective tissue, interposed between the fractured surfaces, thus preventing apposition, and it is quite likely to prevent proper union of the bones.

All foreign material must be cleared away from between the lines of fracture, and, in oblique fractures, the surfaces should be held in position by proper wiring of the fragments with silver wire. If the fractured surfaces can be maintained in proper position without the use of the wire the same should not be used. This plaster of paris dressing I use in all operative cases.

California Building.

[Written for the MEDICAL BRIEF.]

"Cold Wet Sheet Pack in Scarlatina."

BY DUDLEY M. CULVER, M. D.,

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Indianapolis, Ind.

We have just passed through a severe epidemic of scarlet fever in this section and, as we have had several deaths, it gave us room for scientific research, in order to give our patients the best medical attention that was known to the profession. The epidemic at this point took a peculiar course, affecting adults more seriously than little ones, and we had the disease in every form, from the most simple to the most malignant. Our first cases we treated with the antizymotic remedies, together with sponge baths and old bacon grease as external remedies and, despite our efforts, we lost some cases; all this time fearing to use heroic treatment on account of public opinion. But I have since formed a resolution to use such remedies hereafter as my judgment dictates, and let public opinion take care of itself.

The cases we lost died, beyond doubt, from uremic poisoning, and we know that uremic poisoning is caused by the rapid disintegration of tissue, induced by high, excessive temperature, converting urea into carbonate of ammonia.

Hence, this being the case, commonsense ought to teach us that the excessive temperature in scarlet fever must be reduced or death will result. But what is an excessive temperature? I will say that in our research we found that if the temperature can be kept at or below 102° F., there is little danger. But in all of our malignant cases the temperature commenced at 103½° F. to 105½° F., and this is what we found to be excessive and truly dangerous, and truthfully did Professor Thad. A. Reamy, of Cincinnati, speak, when he said that "where the temperature stays at 105° F. for twenty-four consecutive hours, he never saw a case get well." That is my experience by close observation. Hence, we see and know by experience. The temperature is what we have to fight in the first five days of the disease, and guard against albuminuria after convalescence, and they may suggest antizymotics, such as sulphurous acid dilute, hyposulphite of soda, iron, etc., but I find it a dangerous practice in such a treacherous disease as malignant scarlatina.

There is no mistaking the fact that the temperature is what we have to fight and, consequently, our main reliance must be on remedies that will reduce the temperature, and at the same time use diuretics as a shield against suppression of the urine. Public opinion has been strong against the cold wet-sheet pack when it was first mentioned, the people supposing it would repel the eruption, drive the fever internally, and cause instant death, and as death was to be feared in malignant scarlatina, we hesitated to use such heroic means, knowing too well that should our patients die the world would be ready to say, "The wet pack did it."

But, finally, I had a malignant case that was almost hopeless. Lelia S., aged fourteen years; temperature began at 103½° F. and rapidly rose to 105° F. I could reduce the temperature by ordinary means as low as 102° F., but it would suddenly fly up again. She was restless, inclined to delirium, and threatened with uremic poisoning. Finally, I sent for

a consulting physician, and by our united efforts we secured the right to use the cold wet-sheet pack. Commenced Thursday at six o'clock, with temperature of 104½° F. Stripped her of all clothing and wrapped her in a sheet wrung out of cold well water. The result was very flattering. Temperature next morning at 7 o'clock was 101¼° F., a reduction of 3¼° F. in thirteen hours.

The wet sheet was renewed as often as it became warm. This case made a good recovery, and we have tried the wet pack in several cases of malignant scarlatina since where the temperature would reach 105° F, and with the same result. We used internally at the same time:

℞ Tinct. Digitalis.....2 drachms.
Fl. Ext. Jaborandi.....1 ounce.
M. Sig.: Teaspoonful every four hours.

I will say that in place of repelling the eruption, the pack brought it out more abundantly, and it is surprising how rapidly the patient becomes sleepy and quieted after the first application of the pack. This extreme is only necessary, understand me, in malignant cases, with high temperature. We do not treat all cases of fever alike, but treat a disease as it is presented to us. Many cases of scarlatina will yield at once to diuretics and diaphoretics. Such cases, of course, need no wet sheet. But in conclusion, let me say, fight the temperature in scarlatina as a consuming fire.

507 Newton Claypool Building.

[Written for the MEDICAL BRIEF.]

Treatment of Pulmonary Tuberculosis.

BY B. F. LYLE, M. D.,

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The great difficulty at the present time in the treatment of tuberculosis is the fact that physicians do not examine their cases sufficiently, that is, they do not examine them closely enough to enable them to decide as to the extent of the lesions, and the character of the pathological changes in the lungs. On this account any discussion of the treatment of tuberculosis is rather indefinite unless the stage of the disease, or the extent to which it has advanced, is taken under consideration. Unfortunately, at the present time most of the cases seen by physicians have reached the second or third stage, that is, at least half the lung is involved or breaking down, and cavities are already present. Since the advocacy of outdoor treatment of consumption physicians have always applied the rational treatment for the early stages of the disease to the most advanced conditions with which they are familiar, and, as a rule, this treatment is exceedingly irrational. To successfully combat tuberculosis, therefore, it is absolutely essential that the disease be diagnosed early, and in order that this can be done physicians must pay attention to the minute signs of the disease, such as slight rise in temperature, a feeling of malaise, weakness on slight exertion, or inability to carry out their accustomed tasks.

It is recognized now, in the treatment of this disease, that drugs play only a subordinate part, and it would be better if we would speak of the "management" of this disease, rather than its treatment, because many of the necessary details in successful results depend, not upon the administration of drugs, but upon the carrying out of necessary sanitary and hygienic methods. The most essential means are sunlight, pure air and good food, and the latter must be given in as large amounts as practicable.

An individual with pulmonary tuberculosis should recognize that he has but one task before him, and that is the elimination of his disease, and that it is not possible for him to compromise on this problem, and attend to his ordinary tasks at the same time, and be successful in the eradication of the disease. Sunlight is absolutely essential, not only on account of the constructive metabolic changes which the patient enjoys through the exposure of the body to the direct rays of the sun, but also because of the effect on the air itself. An air which is not exposed to the sun becomes a "dead" air; that is, it loses its vitalizing properties. The necessity for pure air is self-evident. Air which is uncontaminated permits the tissues of the body to devote their entire attention to the elimination of the pathological products peculiar to

the lungs, and their efforts are not wasted in the elimination of material which is carried into the air passages with the air. This is, I think, a most important point.

One of the earliest symptoms of which patients complain, is weakness. This should be combated by means of tonics, and they should be continued for a long time. In the treatment of tuberculosis, as in any disease accompanied by loss of strength, stimulation must be given by means of iron, quinine, strychnine, etc.

Next to sunshine, pure air and pure food, I regard rest as one of the most essential elements in the management of this disease. Unfortunately, at the present time, exercise seems to be recommended by a majority of the physicians. The use of a thermometer, however, indicates that a patient is not benefited, because the slightest exercise increases the temperature, and this indicates that inflammatory processes are set up, and that the fibrosis, which is absolutely essential in the recovery of the patient, can not take place. During the period of rest the inflammation is kept in abeyance, and the slight amount of irritation around the tuberculous foci is conservative in its action, and we have the walling off of the disease tissues, diminished absorption of the toxins, and the patient is enabled in this way to gain strength and to increase his reparative processes.

It becomes necessary to treat a great many symptoms in order that the patient may be comfortable, that he may sleep well, and that his appetite will not be compromised.

Probably the most harassing symptom is the cough. All patients with pulmonary tuberculosis do not cough. In fact, in the early stage of this disease, before the bronchial tubes become involved, there may be but a very slight cough, so that cough is essentially a symptom of advanced cases. The absence of cough can not be regarded as an indication that tuberculosis is not present. One should hesitate before beginning the use of opiates in the treatment of cough. It is much better to depend upon strychnine to relieve a weak heart and passive congestion of the lungs, and to give the patient stimulation in the form of hot milk. As the cough is an indication of abnormal local conditions, frequently an ordinary spray used in the throat will allay irritation of the air passages, and stop the dry, harassing cough. If the condition is lower down in the larynx, frequently an intratracheal injection of some medicine will have an agreeable effect. The only derivative of opium which should be used to quiet the cough is codein, as it does not render the patient as stupid as morphine, and constipation is not so apt to ensue. As the cough is frequently nervous in character, bromide of sodium often renders adequate service. Fortunately, the dry, irritating cough caused by congestion of the pharynx can be relieved by sipping a cup of milk containing a teaspoonful of creosote. Mechanical defects in the nose, such as spurs on the septum, should be attended to, as they lead the patient to breathe through his mouth, increasing the difficulty of treatment. Hemoptysis is, fortunately, an early symptom of the disease, which is not accompanied with any bad results, except to the mental quietude of the patient. This symptom seldom requires treatment.

19 West Seventh Street.

[Written for the MEDICAL BRIEF.]

The Treatment of Functional Insufficiency.

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Denver, Colo.

In no branch of medicine is it more necessary to search for the cause and treat it than in functional insufficiency of the ocular muscles.

The first step in the treatment is to determine accurately the amount of errors of refraction, and I do not believe that this can be done by the use of the milder mydriatics. I am accustomed to use atropin in every case where I have to deal with muscular insufficiency unless I am deterred by the age of the patient or for some other constitutional reason.

In the vast majority of cases all of the astigmatic errors of refraction should be carried in the lens, and in cases of

hyperopic astigmatism two-thirds of the hyperopia as well. In my opinion eighty per cent of these cases showing muscular insufficiency will, upon proper correction, be cured. A portion of the remaining twenty per cent will require attention in addition to the correction of the errors of refraction.

Occasionally insufficiency of the ocular muscles is caused by a lack of general muscular tone. To improve the condition will often tax all the resources of the oculist; while a few cases will be promptly benefited by the use of tonics and general regulation of diet, I have often found it necessary to examine more deeply into the habits of the patient. After correcting the errors of refraction and improving the muscular tone of the patient, there still remain a few cases which will require further consideration. It is in these cases that I have found the greatest benefit to be derived from the use of prisms for developing the strength of the weakened muscle. I usually have the patient come to the office sufficiently often to thoroughly understand the method of gymnastic training by the use of prisms. Properly selected prisms are then given to the patient with directions to report once a month or oftener, as the case may seem to require.

It has always seemed to me more rational to develop a weakened muscle rather than to, by operation, weaken an opposing muscle which is only normally strong.

In my hands the use of constantly wearing prisms for the relief of weakened muscles has almost invariably failed in relieving the symptoms of insufficiency of the ocular muscles; except for temporary use they will utterly fail in giving relief, and my experience in dealing with patients who have been accustomed to wear them has taught me that if a weakened muscle has been spared by the use of prisms for constant wear, I am obliged to largely increase the time necessary to strengthen the muscle up to its ratio of balance with the opposing muscle.

I have almost abandoned partial tenotomy for the relief of muscular insufficiency, being guided in my conclusion by the theory that it is better to strengthen a weakened muscle than to weaken one normally strong, and also being warned by the troublesome cases which have fallen to me, which have been subjected to repeated tenotomies with disastrous results.

Jackson Building.

[Written for the MEDICAL BRIEF.]

Glaucoma—Diagnosis and Treatment.

BY F. C. HEATH, M. D.,

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Glaucoma takes its name from the Greek word "glaucos," green, as there is sometimes a greenish reflex in the pupil. But since this is not always found, and the distinctive feature of the disease is increased tension, or hardening of the ball, a name derived from that characteristic would seem to be much more appropriate. Long use of the name glaucoma, however, has established it so firmly that change is unlikely.

Glaucoma, clinically, may be divided into inflammatory and non-inflammatory, the former acute and usually severe, the latter chronic (also called simple glaucoma.)

The reason why we have inflammatory symptoms in one form and not in the other is because of the difference in the rapidity of the increase of tension. When rapid, we have the inflammatory form; when gradual, the eyeball adapts itself to the changed conditions so easily that slight inflammation arises.

The symptoms of acute inflammatory glaucoma are: Violent pain in eyeball and supraorbital region; also, at times, down the cheek, possibly causing nausea and vomiting, redness of eyeball (around corneal margin), swelling of lids, rapidly failing sight, dilated pupil (round or oval), contracted field of vision, steamy or cloudy cornea, and cloudy media generally; shallow anterior chamber, loss of sensation in cornea, marked increase in the tension of the eyeball (testing with the forefingers, as we would palpate a small tumor elsewhere), and, if the fun-

dus can be seen, sooner or later cupping of the optic nerve, the vessels seemingly lost, they dip so abruptly on account of the sides of the depression being so steep and deep.

The inflammatory form of glaucoma may be taken for a bilious attack, on account of the nausea and vomiting, but this mistake will be easily avoided by attention to the eye symptoms.

It may be mistaken for a conjunctivitis, on account of the swelling, but the disturbance of vision, as well as the tension, should set us right. The most common error is to confuse it with iritis, in which the principles of treatment are diametrically opposite.

In glaucoma we have dilated, round or oval pupil, increased tension. In iritis irregular, contracted pupil, practically normal tension. Vision is much more disturbed, usually, in glaucoma, and pain more intense.

In simple or non-inflammatory glaucoma, there is little or no pain, or redness, or swelling; slight and, perhaps, intermittent increase of tension, but progressive loss of vision, contracted field (especially nasally), shallow anterior chamber and marked cupping of the optic nerve.

This form is often improperly diagnosticated as cataract or atrophy of the optic nerve. Its only resemblance to the former is the greenish reflex in the pupil, with progressive loss of vision, but in cataract the pupil gets gradually white or yellowish, never green, and shuts off a view of the fundus. Often, too, in cataract, you can see lines of opacity, like spokes of a wheel, while there is absence of the fundus changes and contracted field of glaucoma. In atrophy the progressive loss of vision is similar, but relatively more rapid as to colors; there is no increase of tension, field affected more centrally, rather than peripherally, or on nasal side, and the optic nerve, instead of presenting a distinct cup, has a shallow depression, the blood vessels seeming to run down from the sides to the center.

The treatment of glaucoma consists of various means, medicinal and operative, to lessen the tension. Atropine, which dilates the pupil and breaks up adhesions in iritis, does harm in glaucoma by adding to the already increased tension. In fact, its use may cause an attack in one predisposed thereto. Eserine and pilocarpin, on the other hand, lessen tension and are of value in glaucoma, but do harm in iritis. The strength employed is usually from one-half grain to one grain to the ounce of water—one drop in eye every two or three hours.

If we do not get speedy results from this, and in the severe cases generally, it will be necessary to resort to operation promptly, an iridectomy being the most effective.

In many cases the disappearance of symptoms and restoration of vision after an iridectomy seem little short of miraculous.

Paracentesis of the anterior chamber gives temporary relief, and the same is usually true of anterior or posterior sclerotomy, although the former has been the favorite operation of a few good eye surgeons.

Removal of the superior cervical ganglion of the sympathetic may be worth trying when all other means have failed, or in hemorrhagic glaucoma.

Internal medication, salicylates, cathartics, regulation of diet and habits, rest and other hygienic measures are of value in prophylaxis, as well as in the management of many of the cases, acute or chronic.

Massage of the eyeball gently for a few minutes each day has been of benefit in some cases.

Simple glaucoma is treated on the same general plan as the acute, but the results following an iridectomy are less brilliant, the best possible result usually being preservation of vision patient had at time of operation. This checking of the further progress of the disease is, however, a great achievement.

We should remember that glaucoma neglected means blindness in practically every case and, therefore, we can not be too alert in our efforts to discover it early and see that proper treatment is promptly given.

427 Newton Claypool Building.

[Written for the MEDICAL BRIEF.]

Practical Feeding of Infants.

BY R. B. GILBERT, M. D.,

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In a practice extending over many years I have necessarily tried various methods of infant feeding, where the mother's milk or cow's milk was not available. And while we may consider cow's milk as the ideal artificial food for infants, this milk is not always procurable in the large cities in fresh, good quality, and even when it can be so obtained some infants do not thrive upon it, and a substitute must be found. This is best furnished by condensed milk of some good brand, and which must be freshly prepared, as after being long stored away it deteriorates, and will not agree with the delicate stomach of the infant. Care must be taken, then, to secure a good quality of condensed milk, and it must be fresh.

To properly prepare for feeding, the condensed milk is diluted with sterilized water until the specific gravity of the mixture is equal to that of the mother's milk, 1032; in addition, there must be added sufficient alkaline lime water, or a solution of carbonate of soda, to render the food sufficiently alkaline, and when a trace of salt is added to the mixture, you have what is, in my judgment, the best artificial food for general purposes that can be offered to the infant.

One of the most frequent mistakes in the feeding of young infants is the tendency to overfeed. I often show to mothers a model of the infant's stomach, actual size, which holds about two ounces, to convince them that a larger feeding is deleterious. Feedings can be given at an interval of two hours, but, under no circumstances, should a single feeding contain more than two ounces. In order to determine the degree of alkalinity of the food the litmus paper test should be used.

In addition to the milk diet, or any artificial food, the infant should be given fruit juices, for example, orange juice, or the juice of a tart apple, in the proportion of about one teaspoonful a day. The tendency of all children who are fed on artificial foods is to become scorbutic, and the administration of these fruit juices will correct this tendency.

In many cases where the very best cow's milk has been used, the infant has failed to thrive, and a change to the diluted condensed milk has brought about perfect results.

If the child is of the rachitic diathesis, phosphate of lime should be added to the milk, in addition to the carbonate of lime water.

An infant should not be fed on milk between eleven or twelve at night and six in the morning. If the child cries at night, it is because of thirst and not of hunger, and if a few sips of clear water are given, instead of milk, he will sleep better and his stomach will get a much-needed rest. I think I am safe in saying that seventy-five per cent of all cases of colic and diarrhea in babies is due to this cause, overfeeding of milk at night. I can recall numberless cases of colic and diarrhea which were cured by simply following out this suggestion, that is, to cut off the feeding of milk between the hours of twelve at night and six in the morning, and substitute a few sips of clear water whenever the infant awakes or is restless.

712 Third Street.

[Written for the MEDICAL BRIEF.]

A Mechanical Treatment for Movable Kidney.

BY C. C. REID, M. D.,

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The kidneys are two in number and are located against the posterior abdominal wall on each side of the spinal column. Each has a fatty capsule and a true capsule. The true capsule is composed of connective tissue and envelops the kidney closely. The false capsule is merely a mass of fat, in varying quantity, which covers the kidney partly or completely. The upper end of the left kidney is in contact with the spleen, while that of the right kidney is in contact with the liver. The right kidney is one-half inch lower

than the left. Each kidney is about four inches long, two and one-half inches wide, and one inch thick.

The kidneys are located anteriorly by drawing a horizontal line across the abdomen through the umbilicus, then three inches on each side of the umbilicus draw a perpendicular line, one inch upward on the right side and one inch and a half on the left side, and the normal position of the lower end of each kidney is located.

To locate the kidneys posteriorly, draw two horizontal lines, one at the eleventh dorsal, and the other at the third lumbar spines. Then mark four vertical lines; one, one inch on each side of the spine, the other two, three and three-fourth inches each side of the spine. The kidneys are in the parallelograms thus marked out. I speak thus far of the topographical anatomy of the kidneys, because the diagnosis and mechanical treatment of movable kidney are based upon this.

Causes of Movable Kidney.—Found more often in women; methods of dress, habits and occupation are potent factors. Constant jarring, as with railroad engineers, drivers, etc., falls, wrenches, strains, child-bearing and traumatism are to be considered. Such accidents will produce strained conditions of the spine, ribs and muscles in the region of the kidneys. These maladjusted vertebræ and ribs or strained and contracted muscles, will interfere with a free distribution of nerve force or vitality and a normal blood supply to the capsules and tissues which hold the kidneys in place; flaccidity results, and the kidneys move slightly downward. There may be varying degrees of movement until it becomes a floating kidney. If it goes below the level of the umbilicus, or over to the median line, it is called a floating kidney.

Physical Diagnosis.—In the physical examination, inspection, percussion and auscultation are of little value. Palpation is all-important. The best position for palpation is to have the patient on the back, with the head slightly raised and the knees drawn up. Place one hand in the lumbar space in contact with the twelfth rib, the other hand flat on the abdomen in front and resting just below the costal margin at the outer side of the rectus abdominis muscle. Have the patient take deep, slow respirations. Make firm pressure during expiration and you will feel the kidney move upward between the hands if it is abnormally low. It must be differentiated from tumors, swellings and a distended gall bladder. Slight differences in consistency, location, size, shape and attachments with symptoms will usually lead one to right conclusions.

Treatment.—Kidney corsets and trusses, the Trendelenberg position for weeks, and surgery, all have their drawbacks, so I am glad to report that good results may be had in treating movable kidney by another method. Have the patient call two or three times a week, and each time put him in the recumbent position and place your hands in the position described under physical diagnosis, press deeply in and push the kidney up to its position, so it can not be felt on examination. Now turn patient on the side, with his face toward you, flex his knees up against you and reach over and catch his spine in the region of the kidneys, from the tenth dorsal to the second lumbar, and spring it strongly upward, and toward you. Catch the muscles at the side of the spine and pull them outward with force. Next turn the patient on the other side and proceed in like manner. This procedure will relax contractures of muscles, relieve strained conditions, free the nerve force to the kidneys, open up and draw the blood supply more freely to the cord and nerve centers in that region and to the supporters of the kidneys, giving them more tone. The kidney having been placed, the tissues will now tend more to hold it. Repeat this treatment for from three to six weeks and symptoms will be relieved. After a few times you will be unable to find the kidney in its former abnormal position. Some cases may show a distinct twist in the vertebræ at the eleventh dorsal or second lumbar. This may test your skill somewhat, but the condition should be corrected. Floating kidney is much more difficult to cure this way and some cases are not amenable to this treatment.

Temple Court.

[Written for the MEDICAL BRIEF.]

Two Interesting Cases.

BY T. J. BEATTIE, M. D.,

Professor of Gynecology in the University of Kansas, Kansas City, Mo.

Case 1.—Mrs. L.; fifty-three years old; family history good; married at the age of eighteen and is now the mother of seven children, all of whom are living. She has been a very hard-working woman, never complaining, and preferred to suffer a great deal of pain rather than expose herself to an examination by a doctor.

She gave a history of severe rheumatic attacks, the worst being at about the age of forty. About two years or perhaps three after this attack, she developed a slight leucorrhea which became worse. Finally it became red from the presence of blood; then it was noticed that the menstruation was becoming irregular and less and less in quantity, until finally there was a leucorrheal bloody flow all the time, and no marked menstrual flow. There was practically no pain, yet this flow was very annoying. The doctors led the patient to think her trouble would disappear, and was due to the menopause. This flow became more disagreeable and the patient came to the Sisters' Hospital. I suspected malignancy, yet doubted it, upon getting a history too long for that of malignancy.

A microscopic examination of scrapings from endometrium was made and the condition pronounced that of papillomata of the uterus. A curettement was done and the patient returned home within three weeks. Her condition improved for some three weeks or more, and again the hemorrhage commenced, growing worse and worse until the patient was forced to return again to the hospital, where a second curettement was performed. Now at this time the patient's general health seemed impaired from the continual flow, but, nevertheless, again she was up and home within three weeks. The flow did not entirely stop as in the former operation, but only abated to a small extent. Every few weeks a hemorrhage would occur, leaving the patient very weak and nervous, and in October last, the hemorrhage became so severe and the loss of blood so great, that our patient was given up to die from the persistent bleeding, by the local doctors. She was unconscious, her heart fluttering in a weak sort of way, and death seemed inevitable. Her physician administered saline solution and gave an intra-uterine douche of almost a saturated solution of tannic acid. She returned to Kansas City, November 15th, 1905. Being very weak, two months or more were given to building her up, at the end of which time a specimen of the growth was given Dr. Hall, who returned a positive diagnosis of adeno-carcinoma. With death seemingly inevitable and with but a glimmer of hope to sustain an operative measure it was decided to do a total hysterectomy. The operation having been completed, the patient was returned to her bed, and rallied some two hours afterwards. She made an uninterrupted recovery from the operation and was home within four weeks, and apparently cured. At the present time, May, 1906, she is well and in an apparently healthy condition and shows no tendency to a return of her former trouble.

Our prognosis in these cases should be always grave, especially in women who have reached the menopause, and where recurrent hemorrhages occur and where we find papillomata existing even without the microscopical findings of cancer.

Case 2. Cystic Tumor During Pregnancy, Simulating Tubal Pregnancy.—In reporting this case I am mindful of the fact that many cases of a similar character occur, but they all have points of interest.

About ten days ago I was hastily called to a neighboring village to see a woman with the following history: Mrs. S.; twenty-two years; mother of two children; previous to her marriage she was in perfect health, but after the birth of her last child had some temperature and convalescence was somewhat slow. This was two years ago and she apparently recovered after a few weeks. Her menstrual flow was regular until last August; about the middle of September she noticed a slight enlargement on the left side of the abdomen low down, which was somewhat movable, but caused her no uneasiness, and she paid very little attention to it. She failed to menstruate

in September, but near the first of October she menstruated a part of one day, the flow being scanty. Since that time she had not menstruated. For the past three or four weeks she had noticed some shreddy mucus discharge which was brownish in color.

On Sunday, November 16th, she was attacked with sudden terrific colicky pains in the abdomen, especially in the inguinal region.

Her bowels had been somewhat sluggish for several days before, and from the time the attack came on until I saw her seven days after, they had not moved. The attending physician had given her medicine to move her bowels, and several high enemas, but without result.

When I saw her she had a temperature of 103° F., pulse 130, thready and weak. This temperature had appeared within forty-eight hours—prior to that time normal. She had a pale, pinched countenance, and was broken out with profuse perspiration and was in great misery. The abdomen was somewhat swollen and was very rigid and tender. Percussion gave dullness on the left side, extending almost to the umbilicus. Upon vaginal examination the uterus was symmetrically enlarged, soft and pushed to the right side. On the left side was a soft, boggy mass. She was so extremely sensitive that it was with difficulty I was able to outline the mass in a satisfactory way.

The vaginal wall presented a peculiar, dark-mottled appearance which we often find in pregnancy. The breasts showed some secretion. She had some gastric disturbance in the way of nausea and vomiting. My diagnosis was traumatic peritonitis, probably from extra-uterine pregnancy or pregnancy with a pelvic hemorrhage from some other cause. I advised immediate operation.

Upon opening the abdomen we found a mass on the left side which presented in the broad ligament, distinct from the ovary or tube. I found a serous fluid filling the cyst, but around the growth and in the ovary or tube there was a large amount of clotted blood. There were some adhesions which were relieved.

I did not shell the tumor out of the broad ligament on account of the appearance of the ovary and tube, but deemed it wise to remove them with the growth. The abdomen was closed as quickly as possible and patient put to bed. She rallied nicely and in thirty-six hours her bowels moved with the aid of an enema; within forty-eight hours after the operation she began to have paroxysms of uterine pain and the products of conception were expelled.

For several days she was very nauseated and much gas generated in the bowels. Her abnormal temperature soon disappeared, pulse became stronger and convalescence occurred.

In examination of the literature of this subject I find many cases reported of cystic tumors complicating pregnancy where the pregnancy went on to full term. A few cases have been reported when ovarian tumors have been found involving both ovaries, and the tumors removed without interrupting the progress of the pregnancy.

Some months ago I reported a case of double ovarian cyst, complicating pregnancy, but the products of conception were expelled some days later.

This case is interesting to me because of the clinical history and the facts gathered from physical examination would lead one to look for ectopic gestation, except one point, and that is, she noticed an enlargement in the left side in September, which she was able to move. We know that often the symptoms of ectopic gestation are extremely obscure and one is unable to get a clear clinical picture.

Commerce Building.

[Written for the MEDICAL BRIEF.]

Diagnosis and Treatment of Ano-Rectal Fistula.

BY JEROME D. POTTS, M. D.,

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Fistula presenting an external opening is easily diagnosed as a rule. The peculiar indentation surrounded by a ring of granular tissue makes the external exit easy of location in the center of this ring, a probe may be entered and passed up the fistulous tract to the various depths, or through into the bowel, if it be a complete

fistula. Even when there is an external opening great difficulty is sometimes experienced in passing a probe. It is necessary to curve it in various directions; sometimes the probe presents the appearance of a twisted letter S. Those fistulas presenting openings inside the sphincter muscles are sometimes with difficulty located, and with more difficulty outlined. Sometimes, after passing directly around the wall of the gut, the fistulous tract extends directly up the wall beneath the mucous membrane and sometimes out into the spaces surrounding the rectum or gut into one of the broad pelvic-rectal spaces, occasionally into the vesico-rectal space.

Equal difficulty is sometimes experienced in locating the point from which the pus exudes. Ordinary instruments for exploring the opening are unsatisfactory, and in the majority of cases the practitioner is left to the sense of touch and he must guide his probe along his finger to the point of exit of the pus, and then into the sinuses as far as he can go without force. I say "without force," for the reason that the structures surrounding the gut are soft and if forcibly used the tract may be carried into healthy tissue and serious damage result. The cord-like induration in the wall of the gut or beneath the mucous membrane will, as a rule, enable the examiner to outline the tract, so that the probe is used more for the purpose of determining depth of the tract rather than its outline. The outline of the fistula, its depth, etc., will give positive indication of the tissues involved and the operation necessary for its cure will depend largely upon this.

Treatment.—Fistulas are too often very unsatisfactorily treated. Many practitioners conclude that a simple antiseptic wash or injection of some stimulating fluid into the tract, or the washing out with boric acid, etc., should result in cure. This treatment in the hands of the specialist has been no more satisfactory than in the hands of the general practitioner. He has determined long ago that the only satisfactory treatment is surgical. Simple incision of the mucous membrane of these tracts that lie immediately beneath it, drainage of antiseptic gauze in cases that appear above the sphincter muscle and do not involve any of the spaces, is all that is necessary.

If the fistulous tract be complete and present an opening outside of the sphincter muscle with no other opening beneath the sphincter, the cutting of the sphincter muscle is a matter of absolute necessity. Fistulous tracts that do not present an opening into the bowel may be treated by the excision of the tract without cutting the sphincter, and where this can be done it is certainly the most advisable procedure. The excision of the tract may be facilitated by passing the probe through it or injecting with plaster of paris. Soft plaster of paris is injected and allowed to harden. The wound may be closed by suture and treated as an ordinary incision if the physician is satisfied that no infection has taken place. If there has been infection, drainage should be placed in the bottom of the wound, or it should be treated as an open wound and allowed to granulate.

The complex form with many tracts, if none of them enter the bowel, may be treated in the same way as the preceding, by injecting plaster of paris into the tract and allowing it to harden, and then excising all tracts. Subsequent treatment as above.

5024 Raymond Avenue.

[Written for the MEDICAL BRIEF.]

A Palatal Osteoma.

BY REA P. M'GEE, M. D., D. D. S.,

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M. A. presented himself last October with a bony growth in the center of the roof of his mouth, posterior to the center of the hard palate. The growth had been noticeable for about seven years, and during the last two and a half years the tissues about it had become more or less inflamed. The peculiarity of the inflammation was that for a month or so the bone would be bare, the edge of the mucous membrane very much inflamed, and he would feel considerable pain on attempting to swallow food, particularly any hard food. Then the inflammation would appar-

ently subside and the mucous membrane grow, covering the bone again. This continued at intervals until it became almost continuously inflamed. Those who had examined the growth were under the impression that it was a supernumerary tooth. On making an examination it appeared to me that it was either a supernumerary tooth, a dentigerous cyst, or an unusually hard osteoma. The portion of the growth presenting was very smooth, conical shaped and almost as dense as enamel. There was a ridge extending upward almost to the center of the hard palate which would indicate that the root lay below it. At any rate, whatever might be the cause, it was desirable to remove it. This I did, after having watched him for three or four weeks to determine whether the inflammation was temporary or chronic; and finding that the inflammation was constantly extending, and that he was suffering from severe headaches, probably caused by the congestion of the blood vessels in the floor of the nares, and also that the soft palate was continually congested, apparently due to this growth.

In operating I split the membrane, laid it back on each side, took a sharp, large-sized dental bur and cut two grooves, one on either side of the protuberance. I then took forceps and gradually worked above and forward to see whether the root was presenting. So far as I was able to discover there was no root present. I could move the entire palate process on both sides. I then took an excising forceps and carefully cut through all I could see of the growth. In order to thoroughly remove the growth it was necessary to cut almost entirely through the hard palate.

The growth, under the microscope, appeared to be a non-malignant osteoma.

The second day after operation the patient returned in a very excitable condition and stated that there were certain words he could not pronounce; and in drinking liquids they regurgitated through his nose, proving that there was an opening entirely through the palate. In the course of the next two or three days the opening enlarged considerably. There was no pus present, and the enlargement in all probability was due to muscular action, there being, of course, an opening at the point of the removal of the bone. At first it looked as though it might be necessary to do an operation to close this opening in the palate. On second thought it was decided to take an impression and make a plate that would simply cover the hard and soft palate, and on the impression I built up a little cone-shaped cup into which I could place a sterilizing agent, this little cup to extend into the opening of the palate. Owing to the difficulty in keeping a wound in the mouth with an open surface from infection, it is almost impossible to prevent the formation of pus. In the little cup, therefore, was placed a mixture of boric acid and a non-alcoholic tincture of calendula. Every other day it was removed and the edges of the wound were slightly irritated with a sharp bistoury to cause hyperemia, and a fresh solution of boric acid and calendula replaced. As the wound drew tighter to the cup, I scraped the cup continually so there would be a constant contraction. After wearing this for some six weeks the wound had entirely closed, so that he was able to speak and swallow liquids without any inconvenience. I then cut the cup from the plate entirely, leaving the latter in his mouth for another two weeks in order to protect the other tissues and then removed it without any further treatment. I watched the case carefully; the congestion in the pharynx and soft palate gradually disappeared until the patient was discharged entirely cured.

Mack Block.

[Written for the MEDICAL BRIEF.]

Clinical Fragments in the Handling of Melancholiacs.

BY S. GROVER BURNETT, A. M., M. D.,

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True melancholia, in full development, is a disease of psychic sadness—a mental indigestion for receptive impressions; no matter what pleasantry, cheerfulness, joys or roseate hues may traverse the in-

going neuron, they are all externalized, a mass of malassimilated, fermented, acrid products. There is a functional paralysis of the psychic center for the memory of smiles. The outgoing neurons seem to have lost all memories of expressive action upon which the facial musculature is dependent to mirror that representation which energizes the world and makes life worth living—a smile.

In true melancholia there is a mental limitation, a narrowing of the horizon, a slowness and dullness of thought that precludes the possibility of accurate or complete logical conclusions, conclusions essential to doing a thing intelligently. They will think, ponder and hesitate, and they, in their efforts to reach a conclusion, attempt to act upon it, but fall short. Judgment is confused and their one constant plea is for someone to decide for them, yet they never comprehend a decision made for them, much less are they able to put it into effect. It is the same thing over and over and over, with a gradual deepening of the intensity of sadness seen in no other disease.

The mental status of the melancholiac is that of one

"Yearning for mercy and buried in fears
Washing his hands in life's hopeless tears."

But there is a type of this disease of special interest to the general physician. He sees it first, as a rule, but does not readily recognize its actual importance at the time. I am accustomed to call these cases the "sane form of insanity," or a premelancholia, that is, the early manifestation of simple melancholia before the disease has actually developed. The patient talks well, often with remarkable clearness, and sometimes the exactness with which they cover their fears, dreads, and apprehensions, and control their thoughts and impulses externally, even to the extent of misleading those closely associated with them, is wonderful, but a technical confidential examination shows them to worry uselessly over trivial and unreal matters. Small things are turned over in their minds as great obstacles. Business men view what has always been a successful routine in business as overwhelming calamities. The bride to be, previously happy, becomes restless, full of misunderstandings, confusions, and severing of ties follows, and the criticism usually goes to the young man as the causative factor, none seems to understand just why. The wife, under the depressing influences of pregnancy, parturition, lactation, and physical and, perhaps, mental burden, ceases to see the sunshine of home, and children and husband are less entertaining. Doubts are unsurmountable. She is irritable, depressed and susceptible to things that are not real. Nights are sleepless, especially so in the after part of the night. She is "blue" at home. To outsiders she assumes to be cheerful and often nothing is noticeable to strangers. The victims of this type of "sane insanity" are frequently conscious of their own mental instability. They are competent to conceal their infirm thoughts, which come to them first in depressing forms, then "blue," then tinged with sadness. Life loses its brightness and distressingly early the thought that life is not worth living flits through the mind and is gone, but it comes again and again and in the repetition of return it deepens and becomes more real. It is less easily put out of the mind and less easily controlled as it deepens. Then comes the thought of the methods of self-destruction, at first horrible to the individual. The distress occasioned by it may lead the individual to impart this anxiety to others, while some steadfastly conceal it, then this thought becomes powerless to resist; it finally remains and is constantly in the mind and cannot be put aside at any time. While less in intensity at intervals, it is always present, and at times the lingering thought is accentuated by impulses if the proper thing or opportunity is at hand. During the impulse suicide is committed. These are the cases which fill the daily papers with mystery and inexplainable suicides. A suicidal wave has just swept this city, seven deaths by suicide this week, seemingly causeless—all melancholiacs and excepting one, unrecognized at the time of the commission of the act. One of these called to consult me professionally twice during my absence. The second time he waited some little time for me. My assistant, Dr. Parker, received him and reports that he seemed in a deep study, but talked clearly and rationally and sat

reading the morning paper much as anyone would, though he tired waiting for me, and in two hours after leaving had blown his head almost off with a shotgun. He was a man of some importance and means in his neighborhood and had absolutely no reason for self-destruction. His brother was professionally treated by me some years ago and recovered.

My observation leads me to state that every case of melancholia is suicidal and only lacks the opportunity to attempt to take his own life when the impulse seizes him strongly enough at some period in the progress of this psychosis. The suicidal idea comes first as a fleeting shadow over the field of thought. Second, as an actual consideration. Third, it assumes an impulsive form, with mental shudders of the thought remaining in the mind after the impulse passes on. Fourth, it matures into an impulse so strong that self-control, that is, mental inhibition, is lost, and if the things are at hand to accomplish the deed, the newspapers have a great mystery to solve (?). Nothing more than a simple case of melancholia undiagnosed.

It is a fact that private institutions for the care of mental diseases are overcrowded during the latter winter and early spring. The majority of these cases are melancholias of the seemingly sane or suicidal type. There seems to be something lacking in the compensation of Nature's changes around the spring equinox. We had first the Vesuvian eruption, the destruction of San Francisco by earthquakes, and the wave of suicide over the land this year.

How carefully these sane pre-melancholiacs may conceal their morbid thoughts is illustrated by the following:

A business man was brought to me a distance of two hundred miles in the custody of the sheriff and his family physician. They requested that I examine into his mental condition. The sheriff was so sure that his man was dangerous that he refused to leave him alone with me during examination. The doctor took me aside and told me that he was assured of the man's mental derangement when he started from home, but during the twenty-four hours' travel with him he had questioned his diagnosis and wondered if he had the wrong person. He presented the intelligence of a man in full possession of his mental faculties and told me that he simply consented to the humiliation of being taken through town in the custody of an officer—a town where he had lived for twenty-four years, simply to cover the humiliation which would come to his family if made public. He told me that his wife was nervous, fretful, sometimes frenzied, accused him of everything on the list that a good man should not do. These things were only known within his own doors. At times her temper storms were beyond description, still in the presence of others she was calm, quiet and impressive. "She carried her suspicions into my place of business. Accused me of taking undue interest in my lady customers, until my business associations became such that I closed out my store and lived on a farm. But matters did not change and her suspicions became more fixed and our home more stormy. She insisted upon having an unchaste woman in my house as a protecting companion. This woman is clever and magnifies every fear and suspicion of my wife and humors her and further turns her against me. And because I insisted upon putting this woman out of my house, to protect my nineteen-year-old son whom she had led astray, I am here in the hands of the sheriff, and submit to an examination as to my mental condition."

To make a long story short, I had the wife sent for, examined her and found her in a fairly well developed simple melancholia.

*Another illustration: A lady entered my office, businesslike, and proceeded to make arrangements with me for the examination of her husband. She had great fear of our being able to get him here without trouble in case he knew our purpose. She told me he had turned against her and viewed her and her acts with suspicion. She saw him pass his hand over a pan of milk from which she was serving the table and noticed he did not drink from his glass and had a satisfied look upon his face after she had drunk from it, and he complacently went away

*Burnett "Mental Inhibition, or the Relation of Neuroses and Pre-melancholiacs to the Divorce Court."—*St. Joseph Medical Herald,* February, 1907.

smiling. She described a most beautiful picture of arsenical poisoning from which she suffered but finally recovered. Her description of her illness would do honor to a physician well versed in the use of drugs. After her recovery she absolutely refused to take any food, drink or medications of any sort with which her husband might have had anything to do. She described being wakened from her sleep in the middle of the night to find her husband probing in her ear, and told how he hung his hand behind the bed to conceal what he held, and how the next morning she moved the bed and found four or five stains from the drops of deadly poison he had spilled there. She pretended to take medications he had prescribed for her, but always threw them away when his back was turned. She pretended to eat at the table with him but did not eat. She prepared and ate her food between meals. And he frequently tried to drop a powder in her food by reaching over the table for something. She said he was extremely cunning and suspicious of her and at times when she detected him and frustrated his plans they had violent temper storms. This and more was logically related in the presence of her sister-in-law, who had not seen her husband, a physician, and who was in tears to learn the awful misfortune that her brother had lost his mind. In rising to leave my office this lady hesitated and in that hesitating expression I saw for the first time a trace of melancholia in her face, but it gave way to a faint smile of satisfaction, when I assured her that I would examine her husband if brought to me. She telegraphed her husband's brother across two states and he came, expecting to find his brother seriously ill. To his surprise, he found him two hundred miles away in another state. He sent for him and they came to my office, and to my surprise, the doctor, the supposed insane man, was a personal acquaintance of mine whom I had not seen for seven years; hale, hearty and well. In the meantime I had fully determined in my own mind the mental status of the wife, she being in a state of pre-melancholia. She has since made a good recovery.

Prognosis in these cases is good. They invariably get well if recognized early and are properly treated; if neglected, they commit suicide, somtimes homicide, or both, where the mother kills her child and then herself. Other cases become chronic and drift to the public asylums, where treatment is practically treatment in name only. Again the general physician will see twenty cases of melancholia to one of mania. In private sanitariums the difference is not so great as shown in the figures below and in public asylums there is a much nearer approximation of the two classes. The last three annual reports of my sanitarium for the years ending March 24th, 1904, five and six, show that I have treated 103 melancholiacs to eighteen cases of mania. Of the 103 melancholiacs forty-seven recovered, twenty-one were to all appearances recovered, but were removed too early to warrant the term completely cured. Twenty were well on the way to recovery and would have recovered had they not been removed for financial reasons. This makes a total of eighty-eight recoverable cases out of 103 melancholias. Of the remainder one was a chronic hypochondriacal melancholia, one senile melancholia, and one acute case of melancholia agitata which died. Seven were discharged unimproved, two being senile melancholias; four chronic stuporous melancholias, and one stuporous melancholia following the menopause, all unrecoverable cases when admitted; five remain under treatment. Thus it will be seen that when the cases are diagnosed early and put upon proper treatment the prognosis is excellent.

The first and most essential feature of treatment is isolation. It is absolutely necessary to remove them from home surroundings and friends if the best interests of the patient are served. By so doing there is complete mental change, new scenes, new surroundings, things of interest, a flushing out mentally of all the old irritating depressing phenomena with which they formerly came in contact. It gives them an opportunity to take on the new, get rid of and forget the old. In addition to this rest, absolute rest is as essential in treating these cases as in the handling of neurasthenia. Allowing the patient to undergo fatigue as a result of either mental or physical exertion is all

wrong. Rest the mind and let it repair, and when I say rest I mean rest absolutely in the full meaning of the term. Cases treated by the rest plan have made far better recoveries and in less time than those treated under any other plan. In addition to rest, food is a very important feature, forced feeding if necessary. Frequently I feed such cases every three hours from the time they wake in the morning until they retire for the night. If sufficient solid foods are not taken I insist upon concentrated liquid foods, simple but very nourishing.

Insomnia in this class of cases is an exceedingly prominent symptom. Notwithstanding opinions to the contrary, that it is not wise to give artificial sleep, it is not in accord with my experience. So long as a patient is allowed to remain awake, losing sleep and rest, deterioration is continually going on, and in my opinion the patient will not recover or begin to recover until this insomnia is overcome.

Rialto Building.

[Written for the MEDICAL BRIEF.]

Abortive Treatment of Typhoid Fever.

BY S. A. BENSON, M. D.,
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The subject of typhoid fever has been written and re-written upon until it would seem that there was nothing left to be said or added to the physician's general knowledge of the treatment of this disease; but I wish especially to emphasize the importance of a strict observance of sanitary measures. I believe that this disease is more often aborted by the observance of sanitary measures than by the administration of medicines. The sanitary measures to which I shall refer, are:

1 Those for the relief and welfare of the patient; and,

2. Prophylactic measures to be instituted as safeguards to those who are exposed to the disease.

The first sanitary measure to be employed in behalf of the patient is the selection of a large, well-ventilated room, preferably located on the second floor. Attention must be given to ventilation, especially at night. The temperature of the room should be kept from 60° to 70° F., according to the susceptibility or pleasure of the patient. I have never known a typhoid patient to contract cold during the course of the fever. It is a common error to keep the room too warm—a condition which increases the depression of the patient and may excite a rise of temperature.

Another and most important measure is complete rest in the recumbent position. The patient should be confined to bed at the very outset of the disease and compelled to use the bed pan and urinal, and not be allowed to rise to the upright position. Having secured rest for the body, it is an imperative necessity that we now do as much for the mind by maintaining quiet in and around the sick chamber. If the surrounding conditions are such that quietness can not be secured at the patient's home, by all means send him to some good private hospital where his just rights to quietude and privacy will be respected. The many anxious friends and visitors should be kept out with a strong hand.

For convenience in nursing, a single or two-third size bed with hair mattress and springs should be chosen. If necessary a rubber cloth may be placed under the sheet, extending down to the knees. In some cases it may be advisable to have two beds so that the patient may be changed from time to time for the sake of comfort or cleanliness. The gown and sheets should be changed every day and the patient sponged morning and evening, and oftener if the temperature rises above 103°F. His position should be changed from time to time, the bed clothes kept smooth in order to avoid bed sores.

In the treatment of no other disease is the scriptural injunction "wash and be clean" more applicable. This I term sanitary measures and it is to this I refer when I say that I believe that this disease is more often aborted by the observance of sanitary measures than by the administration of medicines, so called. A few years ago it was the custom to allow fever patients very little water to drink, but now the tide has turned and we see the error of our ways. We not only allow our typhoid patients to drink, but encourage them to do so. By permitting the patients to drink freely the bowels are kept

flushed, allowing the water to pass constantly over the ulcerated Peyer's patches, and assist in eliminating the virulent ptomaines by way of the stools and urine. We certainly believe that *the ulceration in the bowels needs to be cleansed the same as an external ulcer.*

There exists a difference of opinion regarding the use of purgatives in typhoid fever. Some of our most eminent authorities claim their use is inadmissible. Loomis says: "I am confident that the practice of administering purgative medicine in the early stage of typhoid can only be followed by three-fold danger: 1. The patient is weakened; 2. the local intestinal lesions are increased; 3, perforations and peritonitis are more likely to occur."

Dr. William Osler says: "The bowels should not be disturbed in the course of the disease. Occasionally, for the constipation of convalescence, the writer gives castor oil, but never the so-called intestinal antiseptics nor salines. Injections are preferred if the bowels are at all constipated."

With all due respect for the opinions of the gentlemen just quoted, I insist that the germs and toxines in the stools are in contact with the ulcerated surfaces and the toxines are continually being absorbed into the system. Now, if by the aid of a reliable saline laxative we are able to flush out the bowels, removing a large portion of the bacilli and toxines, and by the employment of intestinal antiseptics we are able to change the character of the remaining stools from an ill-smelling foul or putrid odor, to one with little or no odor, the effect can not be other than beneficial. If the patient is constipated from the beginning or has a torpid liver, the saline purgative should be persisted in. A small dose of the saline laxative each morning may insure a free stool during the day; if not, it may be repeated or enemas may be resorted to, but owing to the ulcerated condition of the bowel the injection must be made with a great deal of caution, and only under the notice of the physician or by a competent nurse. In giving an enema, care must be taken that the bowel be not too much distended. The fountain should be held at an altitude of from sixteen to twenty-four inches above the patient. It is imperative that the patient be allowed to move the bowels as soon as he asks to do so.

Glycerine suppositories may be used in some cases to insure a daily stool. I especially prefer them to the laxatives or enemas if there is a tendency to intestinal hemorrhage.

If the above treatment be employed early in the disease the physician will surely have the pleasure of seeing his patient's temperature drop below 100° F. from the fifth to the fourteenth day, depending upon the age of the patient and the severity of the disease.

Regarding the diet, which is liquid, of course, the patient should be fed according to his ability to digest and assimilate. He may be allowed to choose from the following list: Milk, peptogenic or peptonized; soda water, tea, cocoa, coffee; in addition, he may have soups of chicken, beef or potato. These soups must be carefully strained and may be thickened with flour, barley, milk or eggs. This may be supplemented by his choice of some of the many prepared foods on the market. He may also be given the juice of the grape, lemon, orange. Soft puddings without dressing may be allowed, and ice cream.

During the period of convalescence the patient should exercise the greatest caution in returning to solid foods.

The tepid sponge bath, as has been referred to, is an important factor in treating the fever, but I do not and can not countenance the ice packs or cold baths with a temperature ranging from 32° to 50° F. Under the sanitary treatment above described the fever can be treated without resorting to any such radical methods.

The prophylactic measures instituted in behalf of those exposed to infection, may be enumerated as follows:

1. Isolation of the patient and the thorough disinfection of the excreta.

2. Examination of the food, especially milk.

3. Examination of the drinking water, including inspection of the source of supply.

4. Inspection of the house drains and sewer pipes and the removal of all impurities about the house and surroundings.

To disinfect the excreta the discharges may be placed in a porcelain bed pan, the bottom of which has been covered with powdered sulphate of iron. After removing the bed pan, a little crude muriatic acid should be poured over the stool, or a solution of mercury bichloride 1-500, or a solution of chlorinated lime, four ounces to the gallon, or a fifteen per cent solution of carbolic acid. In the country the stools should not be thrown into a cesspool, but should be buried at quite a distance from any spring or well or reservoir. Typhoid being a water-borne disease in the majority of cases, it is imperative that we make an examination of the drinking water. A simple test is to add two or three drops of Condy's "crimson" fluid to a glass of water, which will give it a pinkish hue; after standing for a half hour if the pink color has disappeared or turned yellow, the water contains organic impurities and should not be used for household purposes without first boiling or filtering it. Milk, while hygienically pure, may be contaminated by the water used in preparing it.

House drains and sewers should be inspected by an expert who will see that there is no obstruction to the outflow of sewage, and that every water closet, wash basin, bath tub and kitchen sink has a proper trap, etc.

If we observe the above precautions the chances are that we will not be criticised for allowing a second case of typhoid to develop in the same family and we will have the pleasure of seeing our patient make an early and complete recovery.

4702 Easton Avenue.

[Written for the MEDICAL BRIEF.]

Is There a Prophylaxis Against Perityphlitis?

BY A. ROSE, M. D.,

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Dr. William Protzman's article in the October number of the MEDICAL BRIEF, "Modern Treatment of Appendicitis," made me think of Balzac's saying: "The style is the man." The clear, concise style, the sound reasoning, the honest frankness will impress the everyday practitioner, for whom the article of Dr. Protzman is written.

Our grandfathers called inflammation of the vermiform appendix by the correct anatomical name, perityphlitis, and there are many European physicians, as we see in the medical journals, who prefer this term to the hybrid name, appendicitis. Some years ago I criticised before a medical society this monstrosity of medical jargon, and one of the surgeons present opposed me, saying that the public had become so frightened by the name appendicitis that they did not hesitate to submit to operation, and he suggested, for this reason, the term should be retained, retained in the interest of the surgeon.

During the month of August surgeons from all parts of the world met in Berlin to discuss the inflammation of the vermiform appendix, to give the world a thorough understanding how the question stands in regard to surgical interference, when to operate, and how to operate. This question has certainly been so thoroughly ventilated at this Berlin Congress that nothing new, nothing more is to be said for and against operation, that has not been discussed there by the best surgeons and clinicians, who are not surgeons. But, after all, one most essential point, perhaps the most important of all, was not considered—etiology and prophylaxis.

I do not wish to be sarcastic, this would not be becoming to me when speaking of the excellent men who participated in the Congress; but the fact is, that there will be less surgical treatment of the vermiform appendix required when the inflammation of this appendix can be prevented, and the public will be relieved from fear, and not submit to surgical procedure when the same measure, which is to prevent, will also prove to be the cure in many instances.

One thing is difficult to understand: Why etiology and prophylaxis have not been considered at the Congress, since the participants must have been aware that the etiology is most plausibly explained when we study abdominal relaxation in relation to pathological changes, among others to acute, as well as chronic infections, which occur at the point where the small and large intestines meet.

The literature on appendicular inflammation during the last two or three decades, has been like an avalanche; more cases were reported within each year than our grandfathers had heard of in a generation. This fact led some writers to speak of an epidemic nature of the affection, and to pronounce a fear of more and more progressive frequency.

Inflammation of the appendix has existed since time immemorial; we shall see if we can explain the greater frequency during the present time, when we shall treat on etiology; but granted that there is really greater frequency, the increase in the number of cases which come under observation is explained by the better knowledge, the perfected diagnosis.

In our text-books on anatomy we are given an exact description of the three flat muscles of the abdominal wall, the obliquus abdominis externus, obliquus abdominis internus, and transversus abdominis, we learn of the rectus abdominis, and all the other muscles of the abdomen, we study the acute crosswise fibrous arrangement of the three flat muscles, their fasciæ and tendons, but of the functions of these important muscles we read very little, of their principal actions nothing at all, and on acccount of this neglect of the physiology of these muscles the understanding of the etiology of perityphlitis was incomplete.

In text-books on anatomy we read that the action of the abdomial muscles consists in compressing the abdominal viscera, constricting the cavity of the abdomen, and that by this means the fetus is expelled from the uterus, the feces from the rectum, the urine from the bladder, the ingesta from the stomach in vomiting. This is all the books say; in reality the functions of these muscles are principally to preserve the physiological position of the abdominal viscera, to prevent ptosis. When these muscles become relaxed, when there is atonia gastrica, the viscera will sink down, but this is not all the books have omitted. The most important functions of the abdominal muscles is to control abdominal innervation and circulation, the distribution of fluids in the abdomen, in the vessels, in the viscera, and in the tissues.

It is not the heart alone which moves the blood, for there are fluctuations of fluids in the body upon which the heart exercises no influence. The distribution of blood is partly regulated by the function of the muscles, and the influence of this function on the vasomotor nerves. Each muscle is, like the heart, both a pressure and a suction pump, which exerts an effect upon the distribution of the blood, especially in the capillaries, and on the distribution of fluids in the viscera and the tissues. Relaxation of muscles means disturbance of circulation, stagnation, hyperemia, odema, disorder of secretory function, either deficiency or hypersecretion.

Formerly, it was assumed that perityphlitis—that is the acute symptoms by which the affection is characterized—were the consequences of chronic inflammation; now, this opinion has been abandoned, the principle of perityphlitis, acute or chronic, is bacterial infection.

In a paper, "Atonia Gastrica in Relation to Chololithiasis,"* I have demonstrated that there is no formation of gallstones possible without stasis and bacterial infection, and the same applies to perityphlitis. Where the circulation is perfectly intact, bacteria can not develop, can not dwell for any length of time. Atonia gastrica has, probably, the same relation, except in cases where there exists a special local cause of stasis independent of abdominal relaxation, to perityphlitis as it has to chololithiasis.

This view is only hypothetical, as far as perityphlitis is concerned, but it suggests itself to be considered seriously and to be investigated.

The assumption readily suggests itself, that the treatment of atonia gastrica—that is, the support of the relaxed abdominal muscles by a plaster bandage—may be the prophylactic measure to prevent perityphlitis, and even to secure a radical cure in many cases in which an operation is not urgently required.

The uniformly distributed pressure, when the adhesive plaster belt, which has been introduced by me, is applied to the abdominal wall, has not only the effect of acting on the tonus of the abdominal

*Surgery, Gynecology and Obstetrics, September, 1906.

muscles, but it also exerts a direct influence on the circulation, which is to be compared with the action of plaster of paris application in arthritis; there is a direct effect on the vasomotor nerves of the capillaries, which vessels, under the irritation caused by pressure, become dilated, and, consequently, the blood circulation is accelerated. Wherever the blood circulation is accelerated products of inflammation and infection will be eliminated by being taken up by the general circulation.

The adhesive plaster belt, if properly applied, and with proper selection of the kind of plaster used, will be borne by most patients comfortably for about five weeks. Not only is there no complaint, but great enthusiasm of the beneficial effect pronounced by the patients. Those whose skin is so exceedingly sensitive that the plaster becomes intolerable, are rare exceptions.

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[Written for the MEDICAL BRIEF.]

Vitality Again.

BY C. D. R. KIRK, M. D.,
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In the September BRIEF, while writing on the above subject, I stated that vitality was governed entirely by the cerebellum, and gave rules for its measure, by which one can determine the individual life force, or vital tenacity.

Now, behind this are reasons why many have weak vitality, while others are endowed with almost superhuman tenacity of life—they will stay on *terra firma* almost regardless of sickness and traumatism that does not strike directly at their vitals—yet, all the parties to this great variation of strength of life have been reared under almost identically the same environment; then, we must look for the formation of the functions of the cerebellum in the parties directly concerned in the production of the human embryo.

In this consideration if we were to jump at conclusions, it would be reasonable to assert that parties to a marriage who were thin of flesh, weakly in appearance, etc., would only produce children of weak vitality, while those of robust build would be blessed with healthy, vigorous progeny; but such is not the case, as a little observation in any community will substantiate, for it is well known that many of the latter class have only little weaklings that compare very unfavorably with their parents, while many of the former class "show up" with strong, healthy children in every particular, as good, if not better, than their parents. Where, then, does the cause of this great nonparity reside? I answer, at least, not in the physical condition of the parents at the time of conception, but most certainly in the temperamental compatability of the parties concerned.

Dr. George H. Tichenor, in September BRIEF, of this year, is peculiarly correct in his consideration of the divorce laws, but he is certainly far off when he cites Cæsar, Washington and Napoleon as parties who, owing to their avocations and mental strain, left no offspring to narrate the glory of their sires. It is well known that these great individuals were men of energy, outdoor fellows, and at the same time mentally capable of developing great subjects, and that, too, without any perceptible mental aberrations.

These parties mentioned by Dr. T., unfortunate for the coming generations, were married to women of the same temperaments that they represented and, therefore, resulted in a failure to produce offspring. Napoleon, however, married the second time a lady who was nearer his opposite in constitution and, therefore, a child, but not a representative, temperamently, of either parent—a weakling.

There is a great mystery, as noted by the people, in the fact that the poorer classes have healthy children by the dozen, while it is quite demonstrable that the rich classes have the weaklings, mentally and physically.

Writers add to this mystery by claiming that it is the rearing of children that determines this great dissimilarity of the adults of the two classes. The writer will admit that the frequent sun-baths the poorer classes enjoy, together with constant manual labor, go a great way in producing the physical man, but how about the one or two little dollies of the sick family, while his poor neighbor has

a new, healthy, vigorous hopeful to name every year!

A solution to this mystery is a very easy one The rich seek the rich, the well-to-do, the affluent, and do not hesitate to marry regardless of natural affection, except that they naturally love all of their class—if rich—but the poorer classes have but the one incentive to marry—affection, regardless of environments.

This love of the opposite sex is, doubtless, formed by the proper blending of the temperaments. This consideration of our constitutions brings us back to vitality. Then, to be endowed with a strong vitality, the parents of the individual must be temperamently compatible. This formation of the constitution can not be brought about by wealth, political, or any other cause, except that of a proper blending of the temperaments. For the production of a healthy progeny, of good vitality, the parties to such a conception must be a vital on the one part, a parent, and a vital and non-vital temperament blended. This and this only will insure healthy, vigorous children, endowed with strong vitality.

I have written enough for a BRIEF article, but may have something more to say about temperaments, if the Editor desires it.

[Written for the MEDICAL BRIEF.]

Typhlitis.

BY J. C. LEWIS, M. D.,
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Appendicitis, pure and simple, is a rare affection. It occurs, in the vast proportion of cases, as a result of inflammation of the cecum extending into the appendix, just as we have involvement of the eustachian tube in many cases of inflamed throat.

Sometimes such occurrences as twisting of the mesoappendix, bruises by the psoas muscle, adhesions, twisting of the appendix by the shortness of its mesentery resulting from a distended cecum, may produce inflammation primarily in the appendix, but these are greatly magnified in importance as causes of such inflammation. It requires considerable power at this portion of the alimentary canal to properly manipulate the contents thereof. The cecum assists in this work, and receives the impact resulting from the contraction of the ascending colon, thus relieving the more delicate structures connected with and surrounding the immediate vicinity of the ileo-cecal valve. The condition of the contents of the ascending colon is naturally soft, and the ordinary movement is backward toward the cecum to intermix the food. When more food is allowed to enter the large intestine, the motion changes for a time, and a portion is moved on to the transverse colon. Then the other backward, churning motion begins anew.

During this process there is a possibility of some of the more dense portions of the intestinal contents (as something hard that has been swallowed) being retained in the cecum, and causing inflammation; a condition favored by its position below the entrance of the small intestine into the large. It is important also to remember that typhlitis is frequently caused by diffused enteritis, particularly of a chronic catarrhal nature.

In many of these cases we will have a weak heart, a sign of catarrhal tendencies, which catarrhal diathesis causes sluggish lymphatics and defective assimilation. These patients have catarrhal symptoms cropping out everywhere.

No disease, perhaps, has a stronger tendency to recurrence than typhlitis, and the most successful course of treatment is a preventive one. To prevent the first onslaught of the disease, as well as recurrent attacks, the most effective course is to order a gentle cathartic once a week, or oftener, if constipation exists, as this prevents accumulation of feces in the cecum and consequent dilatation of the same.

The body should be kept warm by woolen underwear.

The extremities must be guarded against cold, as cold hands or feet, by lowering the bodily temperature, decrease vitality. Wet feet are also inimical to health. The patient should be well nourished and instructed to eat a goodly portion of fatty food. In this connection we may add that good fat bacon is an article of diet to be highly recommended. Regular hours should be observed. The wear and tear of the energetic life many pur-

sue, depletes the general nervous system, which causes, by reflex action, constriction of the ileo-cecal valve, consequent irritation of the parts and resulting inflammation. In such a neurotic patient central or general galvanization will often do wonders. If living where the winters are cold, the patient should be sent away, if possible, during that season, to a warmer climate.

This treatment has been sufficient, in the writer's experience, aided by indicated remedies, to ward off such attacks in many instances, and has insured ultimate recovery without operative measures.

[Written for the MEDICAL BRIEF.]

Medical Wonders and Medical Blunders—A Story of Facts.

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CHAPTER XXI.

THE CONSTITUTION OF MAN AND CONSUMPTION.

It is certainly a medical wonder (?) that the medical profession has almost entirely failed to recognize the greatest and most important factor in the causation of consumption, "the constitution of man." To get at the bottom of this human destroyer, consumption, I want to say, without fear of contradiction, that it is here where we must begin; without it all else is absolutely a failure. We must begin at the beginning of things, how things make things make themselves. How the body is made. What is its constitution, its composition, and how well proportioned is it in all its parts, and the effects of development and environment. In other words, we must study and recognize the constitution of man and his environment before we can get at the cause of consumption and its prevention, barring the sporadic cases. Thousands of sporadic cases are due to the bad and injurious treatment of some other disease by physicians. Many are due to carelessness, and thus ruin a fairly good constitution. But most cases are due to the fact that their constitutions can not withstand the environment.

I wish I could find words to lash the fool medical blunders now chasing a specific "bug" as the cause of this disease, consumption. It is one thing to know a general fact, but it is altogether another thing to know the cause of this fact. Consumption is always a secondary condition, and not a primary one. I can only, in the next few articles, put the medical profession on the right road. I will start them right, then they will have a straight road to nature's information bureau.

Everything in this world, whether animal or mineral, has received a definite constitution, and each, by virtue of this constitution, acts and exists in a certain way and for a certain length of time. The object, man, which here interests us particularly, like everything else, is nothing more or less than a complex organized being, composed of the natural elements, in a certain proportion and complexity. The power of endurance, and the possibility of a long life, depends, first of all, on the proper proportion and complexity of the organization. By this law is it possible for the existence of so many various races of human beings, each having a definite constitution of its own. The same holds true in vegetable and mineral life. This is due to the definite constitution and the distinct mode of action of the substances of which they are composed.

Another important factor that here confronts us is that everything in this universe has a definite relationship to every other thing. Observation will clearly convince us of the benevolent design in nature, but the deplorable fact still stares us in the face from all sides and directions, that wherever man has attempted to interfere with nature, perhaps with honest and well-meaning intentions, but be it said to his everlasting disgrace, he has nearly always made a botch and failure of it and, therefore, is directly the cause of the deteriorated and low standard of his constitution.

Every year the number of doctors increase, every year the teachers of medicine are claiming wonderful advancement in the knowledge, cure and prevention of disease. Every year the hygenic laws are said to be improved. Every year the student of medicine is held to a stricter and more thorough education. Vice and misery has not diminished in proportion

to the amount of moral preaching, nor has disease and suffering diminished in proportion to so-called hygienic and medical progress.

In spite of our boasted progress, disease is continually on the increase, particularly those diseases that are due to constitutional disturbances. Even vice and morality can only be regulated in obedience to nature's laws. Everything good or bad depends, first of all, upon its beginning—that is, in its original constitution; secondly, its development in after life. This can only be done by beginning right, making the babies right, making them with good constitutions, and giving them the proper environment afterwards. Consumption can only in rare cases be prevented by any other method. No man has ever cured a case of consumption, except with his mouth. A cure is a lie. Of this I will convince any thinking physician before I get through, at present it is only a reminder.

The farmer makes it his most important business to get good seed, and to put this seed into soil best adapted to its further development. This makes it possible to raise a crop that has a definite constitution, while if this same seed were put in soil to which it was not adapted the crop would be poor, and very liable to rot before the proper time for it to be disposed of and used by man for his nourishment.

The farmer applies this same rule in raising stock, he sees to it that the male animal is not overworked and properly fed to propagate good soil, and that this seed is put in the proper female soil, and thereby get the best possible constitution in the new being. In other words, if people would pay as much attention to raising children as a farmer does to raising pigs, there would be very little need of the present anxiety and the efforts made to find a method to drive out this white plague, consumption.

With the present increase in constitutional diseases, of which consumption takes the lead, it will not take many centuries when our nation shall be made up of such physical wrecks that to find a constitution that will reach above the age of forty or fifty years will be a novelty. Most of the leaders of the public and the medical profession are schemers and tricksters, and not thinkers and philosophers of the laws of nature. When man begins to be honest with himself, then only will he see the necessity of being honest with nature, and that he must learn to understand and follow her demands, and that the proper education of the young at school and at home is the only remedy. This knowledge must become an active part with each individual. Let me ask a square question, How many are there of us who can meet our own children on the street and not see the imprint of our vice and ignorance indelibly impressed upon their constitutions?

A perfect constitution means a person whose organs and functions are durable and equally balanced; the heart, lungs, stomach, etc., being balanced with the muscular and bony structure of the body. The brain and nerves should balance with the other organs and the muscular system. The sewers, or the organs which carry and eliminate the waste matter, should balance with those of waste production. It is important to understand those functions of the body which have the special duty of carrying off the waste product of the system, so as not to overtax them and produce waste matter beyond their capacity, and thereby leave them very susceptible to external influence, such as the various atmospheric conditions.

The difference between one man and another is governed by the same law as is a basswood tree and a hickory tree; the difference is in their constitution. They are actually made up of the same kind of material, or elements, only the proportions are different. Sometimes all it needs is the changing of the position of the elements, and its constitution is changed, as in changing iron to steel. But the iron or steel bar may have a flaw or weak spot, so that any undue exposure or force upon it beyond the endurance of this weak spot would cause it to break. So it is with the human constitution. There are men of steel, there are men of iron, and there are men of hickory, and pine men, and basswood men; some are corn-stalk men, etc. Each have a definite constitution, and each being perfect or

imperfect in makeup will naturally live out a life which must differ in some degree.

If the pine man tries to accomplish as much as the hickory man, or the man with a steel constitution, he will likely fail in the attempt, or if a man with an oak constitution had a flaw, or weakness, and tried to keep up with the perfect oak man, the result would be disastrous. In other words, a man is no stronger than his constitution, or his weakest organ.

A seed from a good oak tree should, in its constitution, planted in the proper soil, with its requisite environments, bring forth a good oak tree. The seed, then, from this tree will also be good. But let this seed be planted in proper soil, then the first or a poor seed, into good soil, and we have a tree weaker in constitution, other things equal. Whence it will be so much shorter lived, and just so much more easily influenced and affected by the surroundings and conditions in which it lives than will the first.

To go further: If the surroundings should also be more unfavorable than the first, the danger of developing disease and the shortening of its life would be increased just that much more. This only represents the deterioration of a hardy oak in the second generation. What would a few more generations do if the same degree of carelessness should be followed in planting the seed of each generation in poorer soil, or, rather, soil not well adapted to the seed? Would not this degenerated constitution gradually become insufficient to even arrive at maturity? And, if so, would it be liable to resist the ordinary storms and draughts and other natural surroundings that even the ordinary tree must and does survive?

A degenerated oak is not as good as a perfect pine tree, although the constitution of the oak, in its perfect state, is far superior, and much longer-lived than the perfect pine. Place the pine tree under the same unfavorable conditions and we get a more rapid decline in its constitution, on account of its lessened power of resistance, given by nature in its original constitution.

Let us trace this law to man. An individual eats food; this food should contain the material or elements necessary to furnish the body with all its needs, with the exception of the air breathed. This food passes into the stomach, is digested, and chile is formed. This white fluid mixes with the blood. This blood passes throughout the body nearly three times a minute. In its circuit it comes in contact with nails and forms nails, with hair and forms hair, with muscle and forms muscle, with bone and forms bone; in other words, the same blood, coming in contact with different conditions, forms different things. This same blood passes through the sexual organs and forms the living seed or life germ. Therefore, if the food we eat, under proper conditions, evolves into hundreds of these little life germs every day, then is it not a fact that it also depends upon the proper condition of the body, in order to have this living germ develop into a perfect constitution? If this life germ is placed in the proper mother soil, the result will be well-proportioned organs, parts and functions, and capable of living a long and useful life, accidents excluded. Again, if this life germ is endowed with a perfect constitution, but is not placed in good soil, would it develop and grow into good fruit? These questions are not new. Much has been written by others, but it has practically been ignored by the profession and the public, as regards the cause of consumption and other constitutional diseases. The strong point I wish to emphasize is that the only remedy to prevent the fearful slaughter of the young is to get right down to the fundamental principles of nature, and get the public thoroughly educated and impressed with the fact that if they want children that are not going to die with consumption, that the first thing to do is to make them right, and make them with a well-balanced constitution, and live a well-balanced life in good environments afterwards. This will make a nation good in health, excepting, perhaps, some physicians.

Let me ask why is it that our young nation started out with strong, robust, and long-lived constitutions, and in the course of three to six generations the disease, consumption, exists to such a degree that it stands at the head of the dead list? There must be a reason for this.

If the perfect germ is placed in the proper soil it will develop a perfect human being, but if this germ is not perfect in its constitution, weakness will exist in the nervous system, circulatory system or glandular and lymphatic system. Trouble peculiar to these functions will be liable to manifest themselves. This can, however, be altered by conditions and surroundings. Ignorance of this law of birth, growth and development is the prime cause of consumption being so widespread. Consumption is rare among those races who have unconsciously followed these laws from instinct. Yet, I do not say that consumption can not be developed among those races which have not the predisposition, but the percentage is very small, compared with those with constitutional tendencies.

We find constitutional weaknesses not only among the poor, who live in crowded quarters, for the percentage increases as we climb towards the top among the refined. Among the rich, who have all this world's goods with which to buy health, is where the ravager, consumption, mows its victims annually by the thousand. Civilization, education and wealth have not been conducive to the propagation of good constitutions, but, on the other hand, have had a tendency to degenerate in constitution, and produce such classes of diseases as consumption, by transmitting weak constitutions to its offspring. The life of a nation is not a tragedy of fate, each creates its own fate. It will live or perish, it will be diseased or healthy, just in proportion as it regulates its own conditions, and the surrounding conditions in which it lives harmoniously with the laws of nature.

A century or more ago, a sturdy, long-lived class of people emigrated to this country who represented the cream of constitutions from the countries they came from, Germany, Wales, Scotland, Ireland, etc. A few of those people have maintained fairly well in their progeny the health and constitution of their ancestors of a century ago; but how different with the majority, especially among those who have been handsomely blessed with this world's goods. This has been done by overdrawing upon their physical capacity, or debauchery. Their children are usually below their parents in constitution, besides growing up in luxury and fashion, which retards development; they again fall a few points during growth and development, below what it might have been if given the full sway of nature's opportunities for developing their bodies by an outdoor life, plain food, a plain life, plenty of sleep, and fresh air, which gives increased lung action. This, in turn, gives vigor and power to the blood, which means vigor and power to the body, providing it is not overdone. But, instead, they are brought up in parlors, colleges, etc., and, as a result, grow up with a bright intellect, but weakened body. They are married to some young man or woman who, perhaps, has suffered physically from the same source, and the children of the third generation are weaker than the second. These are brought up tenderly and with care, and luxury and refinement. Their whole constitution and, especially their lungs, reduced in vitality and vigor. They take cold easily, suffer physically from long years of school education, become nervous, excitable, and complain more or less. The lungs, as a rule, are little exercised, and they become narrow-chested, but manage to exist and get married. The children of this fourth generation grow up and are more delicate than the third, some of them die with consumption before they reach twenty. How many of us are there who can not trace such a history among some of our relatives or friends, and all due to two causes? The one from excessive mental or physical labor or other excesses of the father or mother, or both, thereby exhausting their energy in that direction and preventing a perfect development in the constitution of the life germs in either parent. The other from not being adapted to each other in marriage, from nature's standpoint.

The child born of such parents will surely suffer more or less in its constitution from the abuse of this most important natural law. The system has certain functions to perform, and has just so much material to be divided in order to supply each function; if one or more of these are overdrawn, the others must suffer.

The opportunities offered in this new country have given rise to ambitions and squandering of energy that would otherwise, in a more settled country, have been more evenly balanced. This has done much to injure our constitutions before we were born. This is not an overdrawn picture, it can be seen all around us. How many wealthy people die between the ages of fifty and sixty, who ought to have lived twenty to forty years longer? They should have been satisfied with a half million, besides the irreparable injury to their offspring begotten during these years, by overdrawing upon their natural resources and supply of physical energy. The seed or germ, suffering in its constitution, the child begotten from this seed must suffer in proportion, and be an easy prey to consumption. This law, of course, applies as well to the laboring man, and applies especially to the dissipater in lust and drunkenness. But we must not forget that environments will also reduce the constitution to such a degree that consumption may develop from sheer physical need. Of these I will speak later.

CHAPTER XXII.

I may talk pretty plain in the next few articles. I may hit our social and professional blunderer pretty hard, but to any man who has an eyepiece to see, and a headpiece to think, it must be apparent that I can not do otherwise and tell the truth. One of the greatest and most pitiful humbugs beneath high heaven, and an important factor in destroying the constitutions of man, are the sentiments created by Dame Fashion.

Just think of those intellectual doodlebugs who devote their little brains to the science of fashion and dress, and social debauchery, thereby ruining their own health and deteriorating the constitution of their offspring. The established social custom of the present generation is to look down upon woman, and it is considered a disgrace to be a mother. At least, not more than once or twice, and then only because they could not get out of it. To clap the climax, some of these mothers will leave their children to the care of a maid to rear on a bottle, while they swing around to receptions and social functions. Brought up under such circumstances and many times reared before birth under worse, is it any wonder that such children grow up sapheads, with no more backbone than a rubber tire with the air let out, or more social force than a wilted rose, and finally die of consumption, or some other constitutional disease, before they come to the age of forty? Think of bringing up men with the constitution of our forefathers by the present abuse of the sexual laws, and the mismating in marriages, and the bringing up of offspring on a rubber nozzle and some patent baby food. Our President, Theodore Roosevelt, has been sound on this subject. Many have written upon this subject, but both the medical profession and the public have almost wholly ignored it. Yet some medical men want a law passed compelling people to be examined before marrying, and they, themselves, do not know any more about the subject than a long-eared rabbit knows about the principles of this government. Be intelligent and honest men, not grafters.

The strong point I wish to make is that civilized man, from nature's standpoint, is a fool and an ignoramus. If you wish the proof of this go among the barbarous and uncivilized nations, go among the animals of whatever type, and the disease called consumption rarely, if ever, exists. But consumption does exist among those animals where the scientific fools have impressed the farmer with the necessity of applying the scientific nonsense, spread broadcast by the scientific frauds who, in return, reap some undeserved fame, and a few thousands of dollars.

These ruinous principles, when once adopted, become more or less associated with other kinds of business, such as food products, social customs, and are forced upon the unwilling public by statute laws. Bugology, antiseptics and isolation have been so strongly impressed upon the public through newspapers, magazines, lectures, and exhibitions, and the people are simply dazed at this sophistical chimera.

State prisons never held three men that have done as much harm by their false teachings and education as Koch, Pasteur, and Lister. There are, perhaps, no three men who stand much higher in the estimation of the medical profession; whether these three men were sincere or

not makes little difference, for the ruinous results to humanity are the same. But worst of all are the thousands among the medical profession who have, by their observation and experience, satisfied themselves that the teachings of these three men is the foulest rot in hell's dominion, yet cling to them like a bulldog to a tramp's trousers, and when closely cornered, will say, "It's a good thing for business," "It's a good talking point." The microbe and the microbe-killer rules the opinion of to-day and, in the language of the lobby agent of the legislature, "It's a big thing," or to apply another quotation, "In it we live and move and have our being." It is one of the most colossal frauds ever perpetrated on a free people.

That germs are the cause of consumption is infamy incarnate. It is the apotheosis of impudence; it would almost seem as if the American people will tamely submit to any brazen imposition, even at being killed, provided it arises from the gall of this profession of archangels, otherwise they would have made a roar long before this that would have appalled these shameless sanctimonious geniuses, who seem to have woven themselves double-ply into the confidence of an innocent and confiding public. The leaders in the profession know this to be a fact, and with their unconscious gall, these parrots outline and macadamize a little highway and sect of their own, and tell the general practitioner and the public, by this creed you have got to travel or else the recording angel will put a black mark on his ledger against you; and thus the world applauds them, while they are trampling the health and constitution of the nation below their brutal feet. We might admit, in all seriousness, that perhaps they may be physically incapacitated to tell the truth or work in harmony with nature, or else they must have had a specific attack upon their veracity by the microbe of falsehood. At the present advance in microbic science (?), humbuggery itself will soon be pronounced a germ disease. This microbe of humbug will likely put his hair in tins, wear a yellow diamond, and have a temper like a Texas steer, and a voice that whoops and howls, and will contend that the Lord made a mistake in not consulting him when he made the world.

The stress and emphasis that has been made by these bugologists to impress upon the public that the germ is the cause of consumption, is an outrage so absurd, so damnable, that words fail to express its far-reaching consequences. This monstrous humbug of the past quarter of a century has a financial harvest for those who have promulgated its doctrine. Under these circumstances and conditions it is the duty of some one to have the courage to withdraw the truth from its enforced and unnatural confederacy, and show that there is a method by which the causes that produce consumption can be understood and explained on a rational and natural basis, and thus render valuable aid to both science and the public.

To accomplish this requires an intrepid investigator, strong in the sense of right, and certain in its interpretation. Certain in his experiments, and certain that they will harmonize with and express nature's laws, as they are, and if there is not another man in the profession who has the courage to take up the fight with me against this scientific humbug, and give the eighty millions of people of our land the benefit of the most valuable knowledge that man can be heir to, and thus give a nation its most valuable and powerful assets, health, physical endurance and high moral characteristics. I repeat, if there are not men in the profession who have the high moral sense to take up this battle, I will go it alone, as I yet have confidence in the American people, and in their intelligence and willingness to take up a fight for the protection of their own lives and health, and that of their children and future generations.

I have taken up this battle against odds and difficulties, yet I am determined, and shall succeed in establishing for mankind in the future every principle of nature's laws which I represent, and which I have demonstrated as positively as Harvey demonstrated three hundred years ago that the blood circulated in the body, though he was hounded and persecuted for years by the medical profession. Just so is it with the physiological discoveries

explained in previous chapters. You do not have to take my word for anything. You can simply go to the living subject and see with the naked eye the truthfulness of my statement, as you can go to the living subject to-day and demonstrate that the blood circulates in the body.

My inquiries among medical men upon these questions has convinced me that there is only a small percentage among the profession who really believe in the present medical fads and humbuggery. Hence, my object has been to explain them in a concise manner to the thousands of honest and well-meaning physicians, in the hope that they would be ready and willing to tear away from the bondage of professional ethics, and assist with all their might to give to the American people these valuable principles. I have no personal feelings in this matter, but I freely confess that I am determined to stop these old and murderous methods that our obnoxious laws have enforced upon the public, and kept them in bondage and slavery worse than any negroes that ever picked cotton under the lash.

330 Harmon St.

[Written for the MEDICAL BRIEF.]

Biology Indicates the Use of Oil Injected Subcutaneously as a Cure of Consumption.

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In this lecture I shall explain to you that the science of life, or biology, points out the use of oils injected subcutaneously as an absolute cure of consumption.

It has been said of the evolution of living matter, that it is born, grows, and dies. This is true of all living matter, whether it be animal or vegetable, man or the tubercle bacilli. There are many conditions which will advance living matter more rapidly toward death which is as certain as others; on the opposite hand, there are many conditions which will prolong the life of living matter. Living matter, in all its varied forms, is characterized by its power of assimilating such nutritive material as is essential for the maintenance of its vitality, and when this power ceases, it dies, whether it be man or the minute tubercle bacilli.

It is proven, conclusively, that before the tubercle bacilli can grow, it must first find a suitable individual who possesses the soil, that weakened non-resistance of tissue which comes from malnutrition; for if it were not so, all would have succumbed to this disease. If the weakened cells of the blood, which carry nutrition throughout the system, had been supplied with the material which was so essential to the organs and all the body to be in a healthy condition, so as to resist disease and repair itself, then tuberculosis never could have affected the body. By a proper nutritious diet we build up the body, so that there is no soil for the growth of the tubercle germ. On the other hand, the weakened individual has succumbed to the disease. If the nutrition of the blood is supplied by injecting oil into the tissues, which increases the number and activity of blood cells, as well as supplying the material for the formation of fat tissue (from which connective tissue comes), and which yields itself to supply all other tissues, then the system of the individual is again placed in a condition to ward off the disease, and through its increased cell activity and increased reparative power, prevents the growth of a new generation of the tubercle germ, while the older ones die and are thrown off by the system, and if they have caused much destruction of lung tissue, its place is filled by connective tissue derived from the fat of the blood. There are no impoverished conditions from which the germ maintains its vitality, for conditions which produce vitality of the individual are incompatible and directly opposite to the conditions which give vitality to the germ. When the nutrition and cell activity of the body is built up to the highest point, it is as inevitable that the germ dies naturally through decline of those conditions upon which it fed, and is as necessary, biological, as its growth.

Life and vitality of the human being are dependent upon a sum of forces, principal of which is the blood. The blood furnishes the nutrition of the body, and is dependent upon proper aeration—and proper nutrition, to carry on the metabolism of the tissues. The blood is composed largely of living cells, which are its essential workers, and are enabled to perform

their functions by the volume of fluid which rides them to the tissues, and for aeration to the lungs. Oxidation, or the repair of the tissue and displacement of old tissue, is one of their functions.

Of all the foods used in oxidation, and the supply of force and heat, fat foods are the most important. The place of oil as a remedy for the disease, injected into the tissues, will be readily appreciated, for oil thus injected enters the circulation in practically the same way as when strained through the intestines, as we shall point out more fully in our lecture on the physiology of the cure.

That which characterizes living matter is its instability, as manifest in its growth, assimilation of other matter, its irritability, motility, and power of reproduction. By the power of assimilation, living bodies or cells of the blood unite with such affinities with which they come in contact.

All these powers are dependent upon nutrition. If the cells of the blood do not come in contact with such nutritious affinities, in sufficient quantities, they can not grow or reproduce themselves as rapidly, and like all living matter, adapt themselves to circumstances, as to number, length of life, and amount of nutrition absorbed. With the oil injected into the system it furnishes an affinity which is assimilated by the blood, furnishing nutriment so necessary for increased growth, reproduction, and length of life, which, in fine, are specialized into the various tissues of the body.

Because of the power of assimilation upon which the vitality of living matter depends, the amount of nutrition which it receives greatly affects its character and appearance of its elements, sometimes identical with itself, according to the amount of nutrition upon which it grows.

Oils injected into the tissues affect the living blood cells directly, by feeding them so that they are enabled to grow, both in size and numbers, and increase their strength and working powers. The presence of nutrition is necessary to feed these blood cells, and for the formation and growth of new tissue.

The power of attraction and assimilation of the blood cells is the power alone which furnishes and carries on nutrition to other parts of the body, and sustains life, and through this power furnishes the elements of all tissues of the body, and is the characteristic of all living matter.

If nutrition is not furnished by proper foods, then the blood cells can not exist in numbers sufficient to ward off disease. Injections of oil into the tissues furnish this nutrition, and we know that it is assimilated, while if taken into the intestine it may pass out before being absorbed and be of little or no value. By the injections of oil, the blood cells find for their growth or repair, or for the nourishment of other tissues, that which it readily appropriates.

Life is dependent upon a constant transformation of matter, which assures to it a proportionate and constant reparation, and it is by this that we can interpret all the processes of growth and repair, while, on the other hand, conditions of disintegration and destruction are due, particularly and principally, to diminution of nutrition.

Nutrition is, therefore, the principal part in the maintenance of life. Nutrition to the blood is furnished by oil injections, and meets every indication for the reproduction and repair of diseased tissue.

Through nutrition, living matter is enabled to live, develop, and reproduce itself. When living matter no longer is nourished it dies. If the blood is not nourished it can no longer maintain itself, to say nothing of maintaining the strength and resisting powers of other organs. It has little to give, it has less to change and repair, and, in proportion to the function of the organ, will correspond a diminished quantity of functional power. We have said that the body is nourished by the blood, which, in turn, gathers its nutrition from the food we eat. If, for any reason, proper food is not eaten or assimilated, then the blood lacks in nutrition.

The vital organs of man differ so as to constitute, as it were, a number of individuals, and their life, as of the smaller cells of the body, are dependent upon nutrition. This is true of the lungs, as of all protoplasm. There is a constant change of worn-out tissue and, as the lungs never cease working, it is reasona-

ble to expect that they demand the highest amount of nutrition, which they gather only from the blood.

The blood must contain nourishment for the lungs' vitality and repair of its tissues, and for the formation of connective tissue, all of which can be derived from fat tissue. The adipose tissue of the body, yielding first to supply nutriment to the more vital tissues, and as oils injected meet all the elements of adipose tissue, their relation to tissues of the body, and how they are converted into them, the assimilation of living tissues, in obedience to an immutable law, will be readily appreciated.

[Written for the MEDICAL BRIEF.]

The Practice of Homeopathy.

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V.

Somehow or other, owing, perhaps, on one hand, to the fact that homeopaths have been obliged to live apart from the main body of the profession, and on the other to the habit, in which most of them have been, of carrying their medicines about with them, doling out of their small vials their drops or pilules, as the case may be, but chiefly owing to the other fact that they have been persistently denounced as quacks, and, as such, entirely outside the pale of the "regular" profession, they have been looked upon as members of a somewhat occult and mysterious sect. That is why, in most of the cases, in which allopathic lecturers and periodicals happen to have anything to say about homeopathy, the thing most frequently brought up against it is that "we know nothing of its secret remedies and, therefore, we do not want or care to have anything to do with it."

But we must admit, once for all, that this sort of excuse lacks sincerity. That the laity, accustomed as it has been to the large and mostly unpalatable draughts of allopathic medicines, should not only be agreeably surprised at the tastelessness of the so-called "water medicines" of the homeopaths, but also pretty often astonished in seeing the prompt beneficial effects of a few drops of physic, drowned, as it were, in a tumblerful of water, and then taken in small sips at more or less long intervals, and should thus surround the professional doings of homeopathic practitioners with a certain halo of occultism and mystery, can be easily understood. But allopathic lecturers and editors of allopathic journals, who are rightly expected to be abreast of the times, and well acquainted with everything that is directly or indirectly connected with medical science and medical practice, have no such excuse, and to them homeopaths can truthfully and very pertinently say: "This thing was not done in a corner," as from the days of Hahnemann, in lectures and journals, books, pamphlets and tracts, everything concerning the principles and practice of homeopathy has been openly and unsparingly expounded, investigation courted, and discussion most cordially invited. Our ignorance, therefore, must be either assumed or willful, and if willful, then there is only one possible explanation of it, and that is that "there are truths which men despise, because they will not examine them, and which they will not examine, because they despise them."

Coming now to the points of more practical interest, the first thing that meets our unsuspecting eye on the very threshold of our inquiry into the ins and outs of homeopathic practice, is a most entrancing panorama of the million and one battles valiantly fought and gloriously won by homeopathy within the comparatively short span of a hundred years, on the field of therapeutics. The moment you open a homeopathic book or periodical, no matter which, you will not have gone far before you will feel that you have at last reached the Eldorado of medical practice, where nothing but success awaits you, where you will cure everybody, where the worries, the anxieties, the harassing uncertainties of diagnosis, etc., which were the bane of your former practice, will be a thing of the past, and you will enjoy a vista never to be forgotten, of triumphs never hoped for, of possibilities never dreamed of, if only—if only you will be brave enough to bid adieu to benighted allopathy and join the ranks of Hahnemann's followers.

Read, for instance, the book on biochemical treatment, with the so-called

tissue remedies of Schüssler, and you will be both amazed and delighted to find that you can cure every disease under the heavens with one or another of only twelve remedies. It is true that homeopaths affect to disown it, but it is equally true that every homeopath has a copy of it, and none the less true that it is to Schüssler that homeopathy owes some valuable remedies recently added to its *materia medica*, such as ferrum phos., magnesia phos., etc.

Take up whichever you like of the many rather racy booklets published by the late Dr. Burnett, and you will learn how to cure such things as cataract, aneurism, cancer, tuberculosis, etc.

Read some of the many articles and papers by the late Dr. Cooper on the wonderful cures effected with his arborivital remedies, and it will be the same. A dose of medicine to-day, then nothing for a month, and so on, until the disease, whatever it was, is cured.

Finally, and just to give another instance, if you want something really sensational, you can read in quite a recent book, as dictatorial and dogmatical as it ever was my lot to read, how a man in the third stage of consumption, "with profuse expectoration of matter of pus-like appearance, pulse one hundred and twenty, greatly emaciated * * * and quite a large cavity in the right lung," was actually cured, and cured so well that no less than twenty-five years later he was hale and hearty—by what? By a dose of kali carbonica, two hundred once in eight days. Do you know what that two hundred means? It simply means one grain of pot. carb. divided by ten two hundred times. No wonder the author says that the day of miracles is not yet past.

Now and then you will, perhaps, as you go on, come across someone who talks about "the necessity of recording our failures," etc., but those are very rare instances, and the dominant note in all homeopathic writings is one of constant success and triumph, so that you simply rub your eyes, or, may be, go even so far as to give yourself a pinch to make sure that you are alive and awake.

It does seem extraordinary, but what have we to say to it all?

Some years ago an English homeopathic physician delivered a series of lectures on the homeopathic treatment of tropical diseases, and in the course of his lectures he quoted the statistics of mortality from those diseases under various lines of treatment, the figures being pronouncedly in favor of the homeopathic treatment. The editor of one of the London allopathic journals, in commenting upon the statistics as quoted by the lecturer, said: "Statements such as these may pass muster with the uncritical laity to whom the lecturer was addressing himself, but must excite contempt among those who know what little influence purely medicinal treatment has in any of these diseases. It is this very want of candor on the part of practitioners of that ilk that makes it well-nigh impossible for self-respecting practitioners to meet them on cordial terms, and so long as the acts of the mountebank are resorted to to bolster up this particular system, so long will its adepts be ostracised by their fellows."

Once more, what have we to say? Shall we follow the example of that journal and denounce homeopaths as mountebanks, or shall we say, as many other allopaths have said, that homeopaths manufacture their statistics, and that their much-vaunted successes and wonderful cures exist only in their exalted imagination?

No. We will, or at least I think the time has come when we should, change tactics and do something better than that, something more in harmony with our training and our position as members of a noble profession. We will remember what should never have been forgotten in the controversy between the two schools, namely, that homeopathic physicians are duly and, in not a few cases highly, qualified men, trained in the same schools, colleges and hospitals as ourselves, and that to throw mud at them in the shape of intemperate and vilifying language, it not only makes us look small and just a trifle contemptible, but also shows our lack of better and more dignified weapons. We must remember that "contempt prior to examination is a bar against all information, a proof against all argument, and the very thing that never fails to keep man in everlasting

ignorance." Finally, we will not, like Dr. Rennel, think that we can carry our point by big words and strong abuse, but will rather bear in mind Sidney Smith's wholesome advice to him, "Not to veil want of power or want of industry by a pretended contempt, but to study his adversaries diligently and answer them satisfactorily."

And, if we study homeopathy diligently, as I hope eventually we will, then we shall know what to think of the genuineness, or otherwise, of its successes. Then, too, we shall be in a position to answer our friends, the homeopaths, satisfactorily, and to the few among them who, in the exuberance of their enthusiasm, may seem inclined to shake the not too solid foundations of our yet untrained faith with reports of transcendental achievements, we shall courteously give the benefit of the doubt, whilst not refusing to give them also credit for the honesty of their intentions, and the *bona fides* of their statements.

(To be continued).

[Written for the MEDICAL BRIEF.]

The Fly and Mosquito Nuisance.

BY R. MENGER, M. D.,

San Antonio, Tex.

Scientific bodies, health boards, and the medical profession in general, centuries ago, already had given the universal fly nuisance consideration as transmitters of obnoxious material upon human beings, but it is of late years, with our advanced knowledge in microscopic research and biological observations, that the fly and mosquito insects are receiving closer attention than ever before. The mosquito nuisance, for instance, in the writer's native town—San Antonio, Tex.—has been so vigorously and successfully dealt with in late years, that but in very few houses mosquito bars are seen. Even now, after the late continued heavy rainfalls, whilst in former years the annoying humming insects swarmed in large groups around and inside each dwelling, and a mosquito bar had to be used from the beginning to the end of the season.

San Antonio, therefore, truly can be congratulated upon its efficient health board, and sanitary crusades against the mosquito pest. Not alone this, the equally, if not more pestiferous fly nuisance, is also being considered more closely, and a vigorous war against tne fly, as well as against some of the ignorant and protesting butchers and slaughter-house people has been inaugurated ever since the beginning of this hot season, and all, or at least the majority of the slaughter-houses, butcher pens, fish and oyster-houses, fruit dealing establishments, etc., must now be provided with screened doors and windows. So far, it seems, no adequate remedy for the wholesale destruction of flies has been invented, and the proper screening of houses is about the nearest best remedy to combat the fly and mosquito nuisance.

As it will, presumably, interest the BRIEF readers, I take pleasure in submitting a few original photos of our sarcophagus, or rather hemophagic fly species. These illustrations, I may state, were prepared for reason of a scientific lecture delivered by the writer some time ago, and, as it undoubtedly will interest the BRIEF readers also, I take the liberty to herewith reproduce some of the main points:

"During these hot summer months an equally annoying pest as the stinging mosquito is upon us again—the universal fly nuisance. Sanitarians are just now devoting much study as to an effectual means of a wholesale destruction of our common fly species, and it is quite certain the date will not be far off when such remedy will be found, and the fly eradicated as effectually as the aquatic mosquito larvæ.

"Our common all-day flies, luckily, are not equipped with as dangerous inoculation implements as some other of their species, and some of the blowfly genera are even useful, in one way at least, as by depositing uncountable eggs on decaying substances, the developing larval flies, or 'maggots,' in turn feed on such putrifying material and devour the fluids and tissues. But there are other, more obnoxious fly species which co-mingle with the common fly, and these are the ones doing most harm, as far as direct inoculation facilities are concerned. On the prairie plains, as well as in towns, where decay-

ing dead animals, chickens, cats, rats, dogs, etc., are allowed to decay and defile the atmosphere with pestilential odors, the various steel blue and glittering blowflies deposit myriads of eggs on the de-

A Group of Hemophagic Texas Fly Species. (Photo from Nature, by Author.)

caying substances, and it has been proven by actual observation of scientists, that one single blowfly deposits not less than twenty thousand eggs, and, accordingly, just as many maggots or larval flies develop from this single fly specimen, which in a few days develop into mature flies. It is thus seen how immeasurably flies breed, and soon after become a public nuisance.

"In an exhaustive essay on blood-sucking Texas fly species before the San Antonio Scientific Society, the writer has submitted numerous original microscopic photo illustrations, which plainly outline the wonderfully arranged anatomical structures, especially the two prismatic eye lenses, magnified over one thousand times, and the inoculation and succatorial apparatus of these blood-sucking fly species.

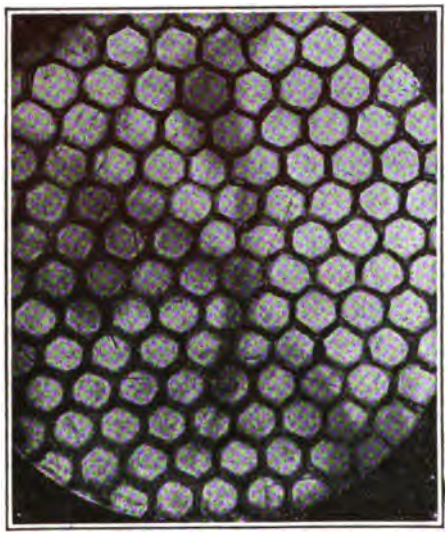
"In our semi-tropical Texas climate there abound, besides the common house fly, ever so many and varied species of more or less dangerous flies, some of which are supplied with fearful stinging implements, but they very rarely and exceptionally attack human beings. There exist various varieties of these blood-sucking insects, and among these the Texas horse or cattle fly is most conspicuous. During the hot seasons our prairies, cattle and cow pens, stables, etc., swarm with pestiferous fly species. They are very numerous wherever cattle abound or carcasses decay, and some species, by means of their inoculation facilities, are liable to transmit and inoculate morbid products, or do much harm otherwise, and cases of death from such sources have occurred in animals as well as man.

"If the tongue or proboscis of a fly (see the fine photo-micrographic illustration in the BRIEF) is examined microscopically, it is noticed to be constructed of various muscular and, therefore, very flexible arrangements, besides numerous succatorial and collecting tubes. This tongue of the fly, therefore, serves similar to all other suction tubes of carniverous fly species, to collect and aspirate the oozing fluids—after the various sharp knives and daggers are plunged by the insect into the capillary blood layers of its victim.

Mouth Parts of the Texas Horse and Cattle Fly; highly magnified; the succatorial and stinging apparatus.

"With an ordinary magnifying glass, if cautiously approached, this process of sucking the blood by the fly's tongue can be easily noticed during the stinging act

of the horsefly, when the insect applies its tongue to the scarified places and absorbs the oozing blood, similar to a



Prismatic Eye Lenses of above Fly, very highly magnified, (with E. Leitz's Microscope, by Author).

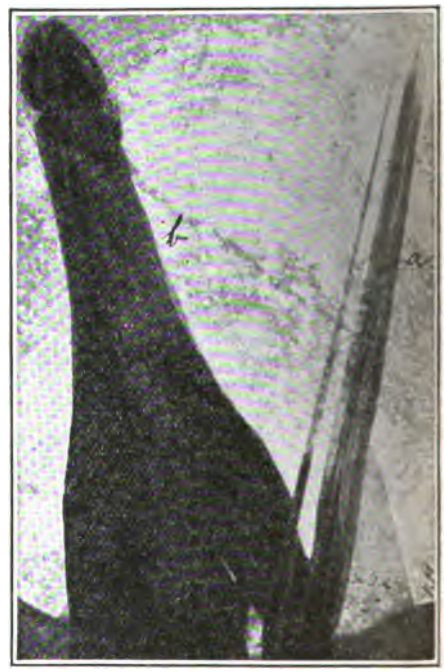
sponge or absorbent cotton Besides this tongue, though, a separate large succatorial and collecting tube, composed of several cylindriform sheaths, is noticed (between the knives and daggers). The ordinary, but widespread, Texas cattle fly attacks mostly healthy cattle, but there are numerous other such fly species which feed on diseased cattle, ulcerating wounds, decaying and putrid material, etc., and thereby become dangerous to man and beast.

"Our common housefly is not supplied with such large stinging implements as some other species, especially of the blood-sucking genera. The latter are supplied with numerous sharp-edged suction tubes, surrounded by the sharp-pointed knives in the form of a large rounded cylindrical sheath, is seen on microscopic examination.

"During an outing one hot summer time, a few years ago, the writer's horse was mercilessly annoyed by horseflies, and it was useless to kill the flies. The animal was literally covered with deep-seated and bleeding wounds. After having killed several of the flies they were taken home, and the photo-illustrations in the BRIEF were prepared soon afterward.

"Our domestic all-day flies, besides being a great general nuisance, are liable to gather on their hairy feet, claws, tongue or wings deleterious matter, and transmit same upon food or fluids. The tongue and eyes of the common fly are of about the same anatomical appearance as the larger and more dangerous variety, and, as stated, whilst the more common species have but primitive inoculation implements, there are others among them which are supplied with very bold daggers and lancets, similar to the horsefly species, and these are the ones more liable to inoculate morbid products.

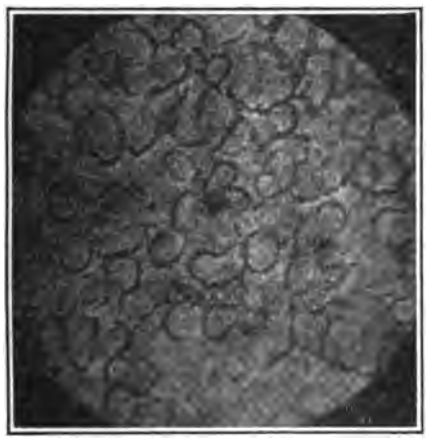
"Years ago, when engaged in microscopic research on this subject, especially



Mouth Parts of a Blue Bottle Blowfly species, (the knives and daggers (*a*) expelled from the central hollow sheath of the proboscis (*b*) by cover-glass pressure before mounting); considerably magnified. Original photo-micrograph, shortly after killing the fly.

the examination of the proboscis, or tongue of a variety of fly species, micro-organisms were often encountered. Cattle flies, especially such feeding on animals sick with anthrax, open sores and other diseases, are well known to transmit disease upon human beings.

"In Boerne, Tex., last summer, a young man was reported as having been inoculated by a fly, and he died from septic infection through that source. Similar cases are on record in medical literature —not always fatal cases, but nearly always having produced very annoying inflammation or malignant pustules. Many years ago, as city official, a sad case occurred in my practice, in a young man suffering with post-nasal catarrh. The man had slept during a hot summer day under a shady tree, and blowflies had invaded and deposited myriads of eggs in the nasal cavity, and the latter soon developed into larve flies or maggots, which were in such quantities that they had produced meningitis and convulsions of the victim, and



Blood Corpuscles (human) of Mosquito (culex anopheles); Partly predigested and disintegrated cells; from Mosquito after it had sucked its stomach full of blood. Photo-Micrograph (with E. Leitz's microscrope) by author, shortly after mounting the blood; very highly magnified.

in such state he was sent to the City Hospital, where the maggots had to be removed by the teaspoonful.

"In hot climes the ova, contained by the thousands in the spiral-shaped ovarium of the fly, are deposited by the blowfly as live larvæ on meat or decaying substances. The bluebottle blowfly, and such others feeding on decaying substances, in slaughter-houses, hog pens, privy vaults, stables, sauerkraut factories etc., are more liable to transmit deleterious material upon human beings than other species."

[Written for the MEDICAL BRIEF.]

Treatment of Typhoid Fever.

BY GEO. R. TUBBS, M. D.,
Plainville, Ind.

Typhoid fever has been known since the time of Hippocrates, and in that time there have been various treatments devised, some as harmful and ridiculous, viewed through our recent knowledge, as may be imagined.

Since we know it is caused by bacteria and also know the usual way they enter the body, we ought, in a few years, be able to eradicate the disease.

It is commonly contracted through water, milk, uncooked foods, utensils used in sick room and removed without disinfection, ice, door knobs, dried feces, and contact with a typhoid patient.

These being the chief means of contagion, let us see what can be done in the way of prophylaxis.

All water should be boiled, especially if its purity and freedom from organic matter is questionable. Surface water should always be looked upon with suspicion.

Foods should be cooked, except those which cooking spoils, as apples, peaches, celery, etc. These should be well washed, and, when possible, the outer side removed.

Canned goods are often a means of conveying the contagion, and should be heated above the boiling point before being eaten.

Within recent years it has been proven that oysters that feed on the sewage of cities are apt to be infected. For this reason it is safest to cook them.

Unless the source of ice is known to be harmless, it should not be used in any drink, but placed outside the vessel.

After a case of typhoid fever has recovered, the house should be subjected to formaldehyde gas, or other disinfecting process.

Those coming in contact with a patient should on no occasion convey their hands to their mouths until they have been washed in some good antiseptic, and on leaving the sick room the same precaution should be taken. After doing so, do not use a dirty, infected towel; better go with them wet.

Cleanliness is the greatest of all prophylaxes. The patient should be bathed at least once a day, and the sheets changed as often and whenever soiled. After each action of the bowels, the perineum should be washed with a one-sixtieth carbolic acid solution. All spoons, glasses, cups, and other vessels used in the sick room should be washed in hot water, and soap, then either boiled or subjected to a one-twentieth solution of carbolic acid for two hours, then washed in hot water again.

The laity, as a rule, understand that the feces should be burned, or acted upon by some strong antiseptic, but they do not know that the urine, saliva, and perspiration are also dangerous.

Especially is the urine toxic after the second week, and remains so weeks after defervescence.

All excretions should be subjected to an antiseptic. A good one is chloride of lime. It is cheap and effective when used in proportion of one to twenty-five parts water. A pint of the solution should be kept in the bed pan all the time, and after the bowels and kidneys have acted, the mass should be covered with more of the solution, and thoroughly stirred, care being taken to mash any hard lumps of fecal matter that may be present, and allowed to stand at least two hours before its final disposition.

Bichloride of mercury in an acidulated solution of one to five hundred, and a one to twenty solution of carbolic acid are also very good antiseptics to use.

In the country pits are usually dug, and the excreta thrown in, with slacked lime mixed in with it. The people should be cautioned to not strew the matter on the ground about the hole, and to keep it covered with a board, so flies can not get to it.

Rectal thermometers and syringes should be washed and subjected to bichloride or carbolic solution. So should the door knobs of the sick room.

The physician should constantly be on the lookout for means and ways of prevention. The sick room should be large, freely ventilated and quiet. A good cotton or hair mattress on springs that do not sag. A trained nurse is to be desired, but when not to be had intrust the care of the patient to some good, reliable, sensible person. The nursing should not be left to any neighbor who might happen to be present. Do not have too many nurses. One or two are enough. There is an old adage that "Too many cooks spoil the broth," and it is just as true that too many nurses kill the patient.

The feeding of a typhoid patient is of great moment. There can be no fixed diet list, no more than there can be for people in good health. The profession is agreed that the food should be of a quality that is most completely digested and absorbed before it enters the intestines. If all stomachs were in an exactly healthful condition, and all digested the same foods with the same ease, it would not be hard to lay down a routine diet, but this is not the case, and, perhaps, never will be. We can not feed all patients alike, but must let the gastric condition, in a measure, determine the kind and amount of food to be given.

I believe that many of the slow recoveries from this disease are due to inefficient feeding. I think it is unwise to give one patient four pints of milk per day just because another typhoid patient could take that quantity without injury.

Milk has long been considered the diet in typhoid, and so it is for many patients, but just as many do as well or better on some other diet.

When milk is taken into the stomach it becomes curdled, and afterwards liquefied, but if the action of the stomach is not normal, the liquefaction may not take place, and the curds pass into the intestines, and act as a serious irritant, as well as a cultura media for the bacillæ. I have fed few cases on milk in whom this did not take place at some time during the disease.

The past two years I have used a mixed diet of milk, eggs, buttermilk, cereal broths, beef tea, chicken soup, vegetable soup, and I have had less tympanitis and no intestinal hemorrhage.

I usually begin with four ounces of milk every two hours, and gradually increase the amount until I think it is as great as the patient will bear. Three or four times during the twenty-four hours I give a raw, soft boiled, or poached egg instead of the milk. If the eggs are cooked, it must be

only enough to turn the white milky. A good way to give buttermilk is to stir a raw egg in a glass of the milk, and give the patient about one-third of the amount at each feeding.

The stools should be watched for curds of casein, and if they appear, milk should be withheld for a time at least, and on returning to it the quantity should be smaller.

Milk also tends to constipation, and beef tea to diarrhea, as well as serving as a culture medium. Another fault with it, especially where there is no trained nurse, it is seldom made properly.

By making slight variations in the diet, I find the patient's appetite is kept in better condition. It is true that during the lethargy of the disease they will take the milk whenever it is offered; they will take most anything else in the same way. A well man would get very tired of milk only every two hours for three weeks.

Five drops of dilute hydrochloric acid should be given before each feeding in most cases. Another thing that must not be lost sight of is the cleanliness with which the food is prepared and given to the patient. No unused quantity should be allowed to remain in the feeding cup to become stale. The amount intended for each feeding should be placed in the cup, and any not used should be destroyed, and the cup immediately washed.

The medical treatment of this disease has undergone a great change within the last twenty years, when it was believed that the bowels should be kept bound up; that even laxative movements were not desired. Now, if we do not have at least one good action each day, we endeavor to bring one about with dietetic measures, laxatives, or enemas—one or two or all three combined. Three or four actions a day is not looked upon with any great seriousness.

In the beginning of an attack the bowels should be cleaned out with a cathartic, either calomel or epsom salts, or both. Then some of the intestinal antiseptics should be given. Usually I give salol, though I sometimes give beta naphthol, sulpho-carbolate of zinc or soda.

There is a feeling among some of the profession that it is useless to give these antiseptics. They claim the disease is in the blood, and that the germs pass from the blood into the intestinal canal. This is doubtless the case, but is it not for the better to drive the bacteria out of the intestine, and not let them remain, and generate toxins to be absorbed and more completely poison the patient?

Ordinarily I do not give heart stimulants before the latter part of the second week, and sometimes not at all. I wait until there are evidences of the heart becoming weak before I resort to stimulation. Strychnine is the usual one I give. Nitroglycerine and whisky are sometimes useful. So is digitalis, but the greatest care should be taken that there is no fatty degeneration when it is given.

The hyperpyrexia is met by hydrotherapy. I have found most cases respond to sponging with moderately cold water, and fanning the wet surface. It is not the low temperature of the water so much as the evaporation that lowers the temperature. A sponging can be kept up for fifteen minutes or longer. The object to be attained is a reduction of the fever, and not a sponging for a definite length of time. If, for any reason, this measure can not be carried out in a proper manner, a cold pack may be used.

Of the special symptoms those of the bowels demand the most attention.

Tympanites, regulation of diet, turpentine stupes, salol internally, turpentine in five to ten minim doses in capsule or mucilage of acacia, is also of benefit, especially so if the tongue is red and dry.

Diarrhea.—Cease giving animal broths if they are being given, and if the diet is milk lessen the amount, and give ten drops of oil of turpentine every four hours. If this does not suffice, give a few doses of deodorized tincture of opium.

Constipation.—Meat broths and fruit juices, with a few one-tenth grain doses of calomel. I have given ox gall to a few cases with very gratifying results, but it should not be given when eggs form part of the diet, as it hinders the digestion of albumen.

Hemorrhage.—Complete rest, cold to bowels. Morphine and atropine hypodermically.

Perforation.—The treatment is surgical.

Delirium and Hysteria.—Passiflora, valerian, or asafœtida.

Vomiting.—Mustard draft to stomach, dieting, bismuth and cerium oxalate internally, swallowing ice.

Epistaxis.—Ice to nose, solution of suprarenal extract sprayed into nasal cavity.

Bed Sores are a serious proposition, and every means should be used to prevent them, such as keeping all wrinkles, crumbs and lumps from beneath the patient, daily rubbing back and hips with alcohol and alum-water. When present, they must be treated with cleanliness and relief of pressure.

Paratitis.—Cold applications to the gland, with morphine for the pain. Incision as soon as pus appears.

Headache.—Cold to head, if severe phenacetine may be used.

Bronchitis.—Turpentine stupes to chest, with an occasional dose internally, is usually sufficient. The patient should not be allowed to lay in one position, as it tends to hypostatic congestion.

Peritonitis.—Cold applications; opium and rest is about all that can be done.

[Written for the MEDICAL BRIEF.]

Medicine at the Time of Homer.

BY N. BENAKIS, M. D.,
Smyrna, Asia Minor.

From the literature of the two peoples, the East Indians and the Greeks, who had made early advances in civilization, and who left to us the most ancient written monuments, we learn that even in the remotest epochs men had some knowledge of medical science, and that some of them devoted themselves particularly to this study. In fact, in some stanzas of the Bedic hymns (Indian) we notice that mention is made of physicians and sickness. "Our desires (the poet remarks) are different; the chariot maker wants timber, the physician wants sickness, and the priest funeral rites." Generally, from such readings (says Daramberg) we can form the idea that in that remote epoch the East Indians possessed some knowledge of medical science, how to take care of women during and after childbirth and of the newborn, about anatomy and several other things. According to the same author, mention is made of leprosy, of consumption and of another disease which seems to have been hemorrhage caused by abortion. Some passages refer to snake bites.

But no other people has influenced so much the development of medical science as the Greek. Greek medicine may be considered indeed as the beginning of the modern medicine, the foundation of the several systems now ruling. The medical science of the East Indians, which is considered by many as the most ancient, did not leave any literature. Medicine of the Egyptians was confined mostly to dietetic advice, and even that of the Hebrews is mostly limited to hygienic rules. Generally speaking, medicine of the Oriental peoples has been barren of fruit. Their medical knowledge was always considered the private property of the cast of the priests; tied by the faith in destiny and by superstition, it made no progress whatever, not even when these Oriental peoples came in contact with the Greeks. The medical school of Alexandria derived no advantage from the medicine as understood by Hebrews and Egyptians.

In the oldest epoch no other literature existed than the epic, which was both religious and heroic poetry. Man of that period had imprinted in it all his soul and passions, and there we see, as in a mirror, all his knowledge and the seeds of civilization of later times. In every literary question we have to take recourse to Homer for its history, and even concerning medical science and its foundation we have to look to him.

Iliad and Odyssey, these two immortal works of the Greek genius, contain actually, in seed as it were, part of the medical knowledge of later periods. The anatomical terms used by Homer are the same as those of Hippocrates; his theory of the substance of life, of the air, of the blood; the knowledge of the dangerous parts in the human body when wounded; the prognosis of wounds; rules of surgical therapy; knowledge of medicines to relieve pain and arrest hemorrhage are proofs that internal medicine and surgery were alike advanced in those times. Agamemnon consoled Menelaus, who was wounded in battle, in these words:

ἕλκος δ' ἰητὴρ ἐπιμάσσεται, ἠδ' ἐπιθήσει
ψάρμαχ', ἃ κεν παύσῃσι μελαινάων ὀδυνάων.

The skillful physician will apply remedies and use means to relieve the great pain.

And Machaon, having examined the wound:

αὐτὰρ ἐπεὶ ἴδεν ἕλκος, ὀδ' ἐμπεσε πικρὸς ὀιστός,
αἷμ' ἐκμυζήσας ἐπ' ἀρ' ἤπια ψάρμακα εἰδὼς
πάσσε, τά οἱ ποτε πατρὶ ψίλα φρονέων πόρε Χείρων.

After examining the wound which the arrow had made, he sucked the blood from the wound then skillfully applied calming medicines which at some time Cheiron out of friendship had given as a present to his father.

Elsewhere, Patroclus, having been taught by Achilles and the latter by Cheiron, in treating the wound of Eurypilus:

νίζ' ὑδατι λιαρῷ, ἐπὶ δὲ ῥίζαν βάλε πικρήν
χερσὶ διατρίψας, ὀδυνήφατον, ἣ οἱ ἀπάσας
ἐσχ' ὀδύνας. τὸ μὲν ἕλκος ἐτέρσετο, παύσατο δ' αἷμα.

With lukewarm water he washed the wound applied with his hand soothing medicine until all pain ceased, dried the wound and arrested the hemorrhage completely.

In the Odyssey, however, after the close of the description of the heroic epoch, more is said about internal medicine. Here Homer speaks of *τὸ νηπενδές* and *τὸ μῶλυ*. The first of these, as is apparent from its etymology (*νηπενδέως* without pain) was a medicine to chase sorrow. The person who drank it, even if he had lost his mother and father, or even if he saw his brother or son dying before his eyes, could bear the emotion for a whole day without shedding tears. This medicine is given by Helena (who received it from Egypt) to Telemachus to chase his melancholy, when he went to visit Menelaus in order to learn what had become of Odysseus, his father.

αὐτίκ ἄρ' εἰς οἶνον βάλε ψάρμακον, ἐνθεν ἔπινον,
νηπενθές τ' ἀχολόν τε, κακῶν ἐπίληθον ἁπάντων.
ὃς τὸ καταβρόξειεν, ἐπὴν κρητῆρι μιγείη,
οὐ κεν ἐωημέριός γε βάλοι κατὰ δάκρυ παρειῶν,
οὐδ' εἰ οἱ κατατεθναίη μήτηρ τε πατήρ τε,
οὐδ' εἰ οἱ προπάροιθεν ἀδελφεὸν ἢ φίλον υἱὸν
χαλκῷ δηιόωεν, ὁ δ' ὀωθαλμοῖσιν ὁρῷτο.

Immediately she mixed the wine with nepenthes and who partook of this mixture had his anger calmed, forgot all evil entirely as soon as he had swallowed from the krater he could not shed tears, not even when his mother and father had died or his brother or beloved son had been killed before his eyes.

This nepenthes of Homer was according to the belief of some a plant called oxtongue or dogstongue, according to others it was stramonium, while still others think it was the plant elenion. Another and more probable opinion is that it was opium. Diodorus (I 97) says that these verses prove that Homer had lived in Egypt, "because the medicine nepenthes Helena had obtained from the Egyptian city Thebes, from Polydamne, the wife of Thomos. It appears that Homer had examined it minutely, and the women of Egypt make use of it still at the present time."

As for moly, which Hermes gave to Odysseus to neutralize the drug by which Circe was transforming men into pigs, it had a black root and a blossom as white as milk.

ῥίζῃ μὲν μέλαν ἔσκε, γάλακτι δὲ εἰκελον ἄνθος.
μῶλυ δὲ μιν καλέουσι θεοί· χαλεπὸν δέ τ' ὀρύσσειν
ἀνδράσι γε θνητοῖσι, θεοὶ δέ τε πάντα δύνανται.

Of the nature of this plant and the genus to which it belonged, much has been written. Theophratus (History of Plants, IX, 15) says that its root was a bulb and its leaves resembled those of the onion.

Pliny says: "Modern authors think that moly of Homer was a species of Allium to which belong the onion and the garlic, both of which are considered as preventing drunkenness." Linné gave the name moly to the golden onion (allium moly) which is cultivated in the gardens on account of its many blossoms of a beautiful yellow color. Some think that moly was probably the serpentine root which in ancient times was believed to be an antidote against witchcraft.

Besides this, Homer knew the antiseptic power of burning sulfur. Odysseus, after killing the pretenders, burned sulfur in his rooms, "sulfur, which is a cure for evils."

The physicians mentioned in the Iliad are Esculapius (Ἀσκληπιός) and his two sons, Podaleirios and Machaon. Esculapius, in Homer, is classed among the mortals, and was by no means the personification of medical science. Among the gods it was only Apollo who possessed

healing power, therefore his surname Alexicacos, that is, guardian; Akesios, the healer; he was also called the savior. Neriod in the theogonia does not mention Esculapius. Pindar and Sophocles class him with the mortals.

In Sophocles' Philoctete (1437 and '38), Hercules promises to send Esculapius to Philoctete: "I will send to Ilion Esculapius to put a stop to your illness." Pindar in the beginning of the third Pythians calls him "the hero who cures all sorts of diseases." Thus according to Homer medical science is human, laical, and not possessed as among the Oriental peoples by the priests. Even Paieon, the physician of the gods, makes use in Olympus of the same medicines which the physicians are employing in the army of the Achaions: medicines for all sorts of sufferings, (Il. V. 401, 900). Homer often shows his appreciation of the physicians in his poems, in calling Esculapius "supreme healer" and his sons good physicians. In another part again he says: "A physician is worth many men," showing thus his respect for medical science and for those who practice it.

In the times after Homer medical knowledge is disseminated in Greece by lay physicians practicing medicine and also by the priests of Esculapius. The Greeks had commenced to render divine honors to Esculapius for his benefiting mankind; they erected rich temples in his honor, to which the sick brought lavish presents; they called him divine, holy and just. It appears that this Esculapian medicine had nothing in common with the medicine of the lay physicians, or rather that it was a mixture of science and quackery, often benefiting very much—not the sick, but the priests of Esculapius. However, these two forms of medical practice, that of the priests and that of the lay physicians, went on alongside of each other.

Many people are under the erroneous impression that medical science made its first appearance in Greece with Hippocrates, that he had been the first physician without antecessors, that he could not have profited by what had been done in medicine before his time, because nothing had been produced before; in other words, that medical science was founded by him, that it had come out of his brain like Athena came out fully equipped from Jupiter's head. Those who believe this ignoré the conditions of the development and progress of science and arts, ignore especially the history of medicine before Hippocrates 'time; they are ignorant even of the very text of Hippocrates' writings, which are not the first fruit of medical study, but the product of medical knowledge of all foregoing generations, to which is added the knowledge acquired during the time of Hippocrates.

Hippocrates, in fact, does not pretend to come forward as the first who occupied himself with medicine, but in his book on ancient medicine he says: "Medical science has existed of old, and had a beginning and a traced road in which many good things have been found in the course of time, and the rest will be added if a capable man knows what has been known already and will search for more from this starting." In ancient times many medical schools existed, some of these before and others contemporaneously with Hippocrates, as for instance in Knidos, Kos, Samos Rhodos, Kroton, Kurene and elsewhere. The books attributed to Hippocrates are not all written by him, because in them the teachings of the school of Knidos are largely represented, a school which in ancient times was as celebrated as the one of Kos. This fact, although it detracts somewhat from the work of Hippocrates, greatly honors the Greek genius, showing as it does that Greece at that epoch had many and great physicians.

But with Hippocrates medical science reached the zenith of its glory in Greece. This great man lived during the time of the glory of Athens, during the great epoch of Pericles, which made the greatest strides in the history of mankind, an epoch which produced Sophocles, Euripides, Thucidides, Plato, Phidias and Polyalstus, Mnisicles and Ictius, Polygnotus, the great painter of Tharsos, and many other great men.

Send the MEDICAL BRIEF. I have been taking it too long to stop it now. It is fine from top to bottom and all right.—R. D. LUMPKIN, M. D., Jefferson, Tex.

[Written for the MEDICAL BRIEF.]

Cholera Infantum.

BY M. B. TULLER, M. D.,
Gibbs, Ky.

True cholera infantum, characterized by simultaneous vomiting and purging, rice-water stools, prostration, collapse, possible convulsions, and, perhaps, in a few hours, death, is, in my judgment, very largely due to infection caused by unhygienic surroundings. Heat, however, may be and frequently is, a contributing factor.

Given a case which has been suffering from gastro-intestinal indigestion, from any of its causes, for a week or two, and surrounded by unclean conditions, a period of intense heat will devitalize the little patient to such an extent that resistance is no longer possible, internal fermentation increases, and a possible fatal denouement is at hand. The infantile organism will resist periods of intense heat if the surroundings be favorable, and the digestion be kept in a fairly healthy condition. Particularly is this true in the country districts. In this mountain section true cholera infantum is a comparatively rare occurrence, just enough to keep a man with considerable previous experience on the *qui vive* about his summer diarrhea cases. This fact is due to a probable purer condition of the atmosphere than will occur in localities of lower altitude.

The disease is not confined entirely to the summer season, sporadic cases occurring in all seasons.

The onset of the disease will frequently be preceded by a peculiar gray pallor, lasting in some cases only a few minutes, and in others several hours.

The longer the pallor lasts before vomiting and purging occur, the graver will be the sickness. The experienced and observant physician will at once comprehend the gravity of the condition impending and may, possibly, avert it, by timely treatment, if he can make the unobservant parents understand that the child is in deadly peril. More frequently, however, he does not see the case until vomiting has set in, then he has to deal with a fully-developed condition, full of peril.

Of late, it has occurred to my mind that when a child is seen with the peculiar gray pallor, it might be wise treatment to unload the stomach at once with an apomorphine hypodermic injection, and follow with antiseptic treatment and starvation for a few hours or a day. Theoretically, the advantage of the treatment can be readily seen, and I intend to try it on the first case presenting that condition, where the parents have intelligence enough to understand what I wish to gain by the procedure.

From reason, I can not see why unloading the stomach of a fermenting mass, in a child presenting the indication named, should not be as safe and wise as inducing emesis in other conditions, provided the after-treatment be properly and strictly carried out.

The prognosis is always very grave. Years ago I have seen them die in three or four hours after the onset, in spite of the best I could do for them. I could only stand helplessly by and say, "The Lord giveth and the Lord taketh away;" which, however true it might be, or however consoling to the parents, was not so reassuring to the conscientious physician, who would doubt very much whether the Lord had anything more to do with the matter than to receive the soul which ignorance had allowed to pass prematurely out of the world. At that time we knew nothing of the power of atropine to control vomiting, and we knew nothing of gastro-intestinal antisepsis, and we did not comprehend the great value of rest, by starvation, to the digestive tract. I know that I, at least, twenty years and more ago, would allow my patients to go to the breast or the bottle much too early for safety, and several lives have passed from this world solely on that account.

Treatment.—Sedation, antisepsis and rest to the digestive tract are the three cardinal points in treatment.

When the physician has been called to a case of true cholera infantum and arrives on the scene, he will probably find the child at the breast, or sucking, maybe, a dirty bottle. Either must be stopped at once, the bottle for days, and the breast for at least twenty-four hours, and probably longer, feeding the child a little gum arabic water, or albumen water, or a

little beef juice. It will not die of starvation. It certainly will die if fed either breast milk or bottle milk.

If it is thirsty, and most of them are, give it boiled water to drink, cooled by setting the container in the spring or well or ice water; do not put ice in the boiled water. Give the child enough to quench its thirst; no harm has ever come, in my experience, from giving cooled boiled water in reasonable quantities, and it tends to set up the action of the kidneys, a most important point to be considered.

The sick room must be shaded, and as cool as the season will allow, but the patient must be comfortably clad. Its extremities must not be cold, nor must it be chilled. Absolute quiet should prevail in the sick room. Very sick babies do not bear noises well, and a cholera infantum patient has a badly-shattered nervous system, and will not bear noises. The writer lost one case, after reaction had set up, by a terrific clap of thunder directly over the house. The child was asleep when it thundered, woke with a little scream, went into a convulsion, and died before help could arrive. If the surroundings are not in good hygienic condition, they should be improved as well as possible.

If I were restricted to one line of medicinal treatment I should choose atropine to control the vomiting, zinc sulpho-carbolate as the antiseptic, bismuth subcarbonate as the healer of the inflamed mucous surface, and strychnine arsenate as the reconstructive or supporting drug.

On this treatment, with careful nursing, many cases will make a good recovery from the primary sickness. It has been suggested that a full dose of atropine, hypodermically, be administered at once, but I suggest that in order to avoid a possible idiosyncrasy to the drug, that one five-hundredth of a grain be dissolved in six teaspoonfuls of boiled water, giving a teaspoonful every ten minutes until all has been taken, when it is probable the stomach will be under control and ready for the zinc salt. Usually, I prefer giving this in solution by itself, slightly sweetened, adding the bismuth later, after the influence of the zinc has been established. Zinc, one-half to one grain for a child more than a year old every half to one hour; one-sixth to one-third grain for a younger child.

Prepared oyster shell combines well with bismuth subnitrate in the treatment of these cases, especially after a day or two have elapsed. Being alkaline, it neutralizes the acid conditions in the *prima via*, and, if milk be allowed, which shows a disposition to curdle in the stools, will aid very materially in its digestion:

℞ Prepared Oyster Shell.....20 grains
Bismuth Subnitrate.....60 grains
Chart No. 20. A powder every hour or two as needed.

If the previous history of the case shows that there has been indigestion, calomel, one-twentieth grain, every fifteen to thirty minutes, will often speedily subdue the vomiting, when it should be continued hourly until at least one grain has been taken, then followed by the zinc and bismuth.

Calomel is, itself, a fine antiseptic, and is indicated in all cases of infantile indigestion, but needs to be interrupted in its use.

Arsenic is another remedy which has a wonderful controlling influence over the gastric function, in true cholera infantum. Its most reliable indication, in these cases, is rapid exhaustion and emaciation. Given in one-tenth drop doses of Fowler's solution every ten minutes until the stomach begins to get quiet, then every half to one hour, it frequently does fine work. Arsenic is a stimulant tonic, as is evident from its effect on those mountain climbers who use it to help them do their stunt, and, in my judgment, should be more frequently used in those cases of sickness characterized by rapid prostration, unless contraindicated by other pathological conditions.

Later in the disease, liquor arsenicalis may be called for when the thermometer shows a high temperature, the skin appearing comparatively cool, with restlessness and unquenchable thirst.

When the zinc salt fails to keep the temperature within safe limits, the arsenic solution may be given, one-quarter minim hourly in water, and will frequently make the case take on a favorable turn.

Veratrum album. is another remedy called for in desperate cases of cholera

infantum, and is indicated by simultaneous vomiting and purging, great exhaustion after each stool, and the forehead or whole face is covered with a cold, clammy sweat. This remedy, given in one-tenth drop doses every fifteen minutes until the vomiting and purging are measurably subdued, then hourly for as many hours as may seem needful, the case will be ready for other indicated treatment. This remedy is not indicated in any other condition than the vomiting and purging, with clammy face, so far as I know.

Podoph. pelt. tincture saved one case for me when the prospect was dark for the little patient, after other means had failed, and was given on the single symptom of very large watery stool with each effort to vomit. In half an hour both stomach and bowels were under control, so far as the immediate dangerous symptoms were concerned. He was given one-quarter of a drop every five minutes for a few doses, then half hourly for several hours, when the treatment was changed to the zinc salt, bismuth and prepared oyster shell, and the boy made a good recovery.

One peculiar case I had in the winter. A robust boy, ten months old, was suddenly seized with vomiting and purging. Looking the case over, I decided that it was congestive and gave the child aconite, which soon controlled the stomach, but had no influence on the stools. I then gave a few doses of calomel and bismuth, with some change in the character of the stools, but they were still frequent. I had, in the meantime, allowed the child to go to the breast. The next day the stools were still frequent and consisted of large masses of lumps the size, shape and color of lizard's eggs (every country-raised doctor knows them), covered with transparent mucus, and without a drop of bile. I gave him:

℞ Tinct. Aloe Soc..... 6 drops.
Zinc. Sulpho-Carb..... 6 grains.
Water.....18 drachms.
M. Sig.: A teaspoonful hourly.

The aloe was given to start the bile, which reappeared after the second dose, and in a few hours the lizard's eggs disappeared.

Eager, or hasty drinking, is a portentous nervous symptom in these cases, and may be the forerunner of convulsions, and calls for belladonna, best given alkaloidally, one five-thousandths of a grain hourly, for a few hours, then less frequently until all signs of nervousness have disappeared.

Rapid rise of temperature is a most unfavorable symptom, and when other remedies have failed, may be controlled by veratrum viride, one-tenth minim half hourly. It served a peremptory and permanent injunction on one case for me when I had almost given up in despair. Thoughtful and resourceful must the physician be who treats these cases successfully.

For the collapse without marked vomiting or purging, the spirits of camphor will prove serviceable.

I have now given the BRIEF, in two papers of considerable length, an epitome of my experience with this disease, which is, in many parts of the country, a hydra-headed monster. The man is not yet born who can say the last word on this subject.

[Written for the MEDICAL BRIEF.]

Will and Feeling in Physical Therapy.

BY AXEL EMIL GIBSON, M. D.,
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1. The Inadequacy of Mental Healing to Its Task.—By placing the mind on the summit of self-consciousness, and referring to it as the creative genius of existence—the generator and supporter of thought, will and feeling, and the final reality concerning matters of life and death—the therapy which operates under the different names of metaphysical, mental, divine, spiritual, etc., schools of healing, is refused prestige in the circles of the more broad-gauged and concretely-poised schools of medical sciences.

While we do not question, neither the power nor importance, of the mind as a factor in health, yet in the light of universal evolution, it is, like the body, a mere agency for the transmission and manifestation of life—physical, mental or moral. Being thus a ground for moral and mental culture, it is obvious that the mind can not also be regarded as the cultivator. It responds to psychic im-

pulses, but does not generate them; it receives, like the soil of the earth, the seed of vegetation, and provides for its germination and growth—but the seed itself hails fom other sources. The mind is the great fertile zone of growth and development, but the things to be developed—the coming and going impulses of will, thought and feeling—have their ultimate origin in far interior states of consciousness; while the germinating sports of incipient intellectual life unfold and grow into character in response to the controlling influence of the involved motive.

Hence, the mind constitutes the floodbed, along which the stream of life deposits its germs of soul-growth. Tendered and nourished by feeling, these germs grow in conformity to the force and direction of the latter, unfolding into varying stages of health or disease—morally, mentally, physically—while ceaselessly rising or sinking through the mind toward life or death. The directions of these streams of tendency may be subject to temporary changes, due to heterogeneous impulses of faith, hope or intense desire, and for a time deflect the moral course of causative unfoldment. Yet the disturbance can never be fixed into permanent states or conditions of life; which is to say, that while the mental healer may arrogate the power to introduce changes in the momentum and direction of the individual life-stream in its etiological expression, and even entirely reverse its action of periferal elimination, so as to force its current into a return to latent motive force—yet the ultimate result of his effort can be nothing but futile, as the motive and motor power back of the individual life phase is still unchanged, and, though temporarily suspended, continues to push the life stream to resume, at the first return of suitable conditions, its course towards final elimination through some corresponding aspect of disease.

From this point of view, the only course by which permanent restoration of lost health can be reached, lies in the invoking of a force at the very fountain of the disturbance—the force of the motive itself. And, as conscience gives character and force to motive, it is revolting, both from a moral and scientific point of view, to look for power in a paid mental healer to restore purity and peace to a troubled conscience. The road to health, while it may be pointed out by others, must be tread by the healthseeker himself, as the goal can be found only by retracing, step by step, the feelings and their expressions which formed the chain of consciousness connecting the disease with its subjective cause—the motive. And this suggests the only possible procedure of permanently restoring a broken-down vital balance, moral self-elimination. The attitude of life, by and through which previous health-conflicting indulgences have to be met and cancelled, step by step, by corresponding acts of moral restraints.

2. *A Hyperacidic. Stomach, the Results of Hyperacidic Feelings.*—The new symptomatology shows an inclination to trace every bodily state to preceding subjective states, or feelings. An unceasing stream of vital energy proceeds from the sphere of feelings to the sphere of bodily activities through the transmitting conduits of the mind. Disturbances in this stream are registered in terms of pathological or clinical features. Thus, the disturbance which manifests in the hyperacidity of the gastric juice, has its ultimate origin in an acidified motive. We make a mistake in accrediting food as the first cause of hypersecretion of gastric acid. Whether conditions for its specific manifestations prevail or not, the secretory gastric mechanism has already, *per se*, the tendency to hyperacidify its output. And while we readily grant to dietary errors the power to furnish the morbid conditions, we are, nevertheless, obliged to look otherwise for the central, determining force which gives to the process its specific tendency. On the other hand, the power of a corrected diet to modify the character of the gastric secretions lies, principally, in its influence on the individual's moral nature, by way of the sacrifices involved in the dietary restrictions. And, furthermore, it is within the range of common experience that dietary rules and regulations are powerless to sustain a cure as long as the patient continues to acidulate his feelings. Perhaps, some day, we shall find within the range of medical science the power

to demonstrably follow the changes of vital chemistry at work between the moral acid of an uncharitable, suspicious feeling, and the subsequent irritation of the secretory glands involved in the hydrochlorid production in the gastric chemistry.

And as a suspicious, gloomy hypercritical and fault-finding disposition of the mind may ultimately lead to gastric disorders, so the harboring of other shades of abnormal feelings may give rise to corresponding etiological reactions. Thus, an outbreak of anger—an emotion which particularly relates to the hepatic nature of the individual—may so influence the bile and glycogen secretion of the corresponding organs that serious and even fatal shocks have sprung from it. Again, excessive fear, by sending all the blood to the heart, may cause temporary arrest of assimilation, with the subsequent expulsion into the intestinal canal of uncalled for alimentary secretions—a physiological departure which is accountable for the symptoms of diarrhea which so frequently follow upon sensations of overpowering fear.

3. Feeling, Not a Sentiment.—Feeling is the subtle, impalpable medium of existence, by which the soul relates itself to the powers and conditions of universal life. It constitutes the Marcony system of consciousness, connecting the intelligence of one individual with every other center or expression of intelligence. Being neither thought nor reason, as such, nor yet the erratic sensational play of emotion, which we often designate with that term—feeling might be called the protoplasm of the soul, the all-supporting ether of conscious existence, through and by which intelligence becomes transmitted from the generative centers of the world-life to its evolutionary creatures.

4. Feeling, a Diagnostic Factor.—Consequently, the cultivation of pure feelings is indispensable to the individual in his development of strength and virility on any plane of life or consciousness. And, as it is impossible to be physically or mentally well if our feelings are ill and impure, so the success in diagnosing conditions where feeling resides as the causative and qualifying force, must depend on the purity and acuteness of the feelings of the physician. For feeling has the power to open up for its devotee conditions and processes, where experimental thought and intellectual theorizing is too gross to be admitted.

Thus, if sensitized by unselfishness and sympathy, feeling has the property of the magnetic needle in its power to point out to reason the etiology and diagnosis of a disease. For what constitutes the difference in the great majority of physicians, with regard to their powers of diagnosis, but the difference in the depth and capacity of their feelings? The concrete and mechanical constitution of things and substances are open to all who are endowed with unimpaired senses, and reveal to the purely sensory intellect very much identical aspects and properties. Hence, as the intellect draws its entire content of knowledge from the activity of the senses, it follows that any difference in appreciation of facts and principles, any true advance in observation or originality in interpretation, is due to our power of response to feeling—the penetrative power of subjective discernment. Evolution of science and art would ever remain a fixed quality, were it not for the "advanced ignition" of subjective processes, due to the high-wrought and exalted presence of feeling, which, like the mystic spirit of genesis, hovers over the dark abyss of the unknown. A man without exaltation of feeling, if a scientist, is a mere theorizer; if an artist, a mere imitator or copyist; if a physician, a quack.

And, as a physician in his quality of symptomatologist and diagnostician, must be at once a scientist and artist, the importance for him of cultivating a pure and high state of feeling is paramount. Similar symptoms may often convey quite different ideas to the different physicians, and suggest to them fundamentally different ways and methods of treatment. Not because, however, that the vision of the one physician is keener, the touch subtler, or the hearing more acute; but because the different degrees of exaltation in feeling which lead the mind, thought and reason, during the diagnosis, in different directions. To observe right, to judge right, is to feel right.

5. Relation of Feeling to Instinct and Intuition.—The evolution of humanity

proceeds through the evolution of feeling. It is the pioneer of self-conscious intelligence, the guide and genius of primitive man, while yet remaining the indispensable counselor in the movements of high, affirmative reason, if the latter is to be reliable. The strongest and acutest mind is powerless to move one inch forwards or upwards with less impelled, knowingly or unknowingly, by that impalpable, indefinable something which, as feeling leads the mind to unperceived aspects of subjective life. Only through the zone of feeling can consciousness ever become self-consciousness, or instinct ever become intuitive thoughts. The subjective workshop, where impulses and perceptions are elaborated into thoughts and conceptions, constitutes the mind; but the conduits over which the impulses and perceptions are flashed into the mind constitute qualities of feeling. For what is feeling but the cuticle of the mind, transmitting elemental consciousness into the intellect for elaboration and realization; starting mental action, and on the same time through subsequent mental reaction receiving impulses for its own evolution. And, as seeing, hearing, tasting, smelling, etc., are essentially and fundamentally tactular modifications of the general sense of touch, so the whole range of self-conscious experience is surrounded and maintained by the cosmic touch of feeling.

Being thus universal, both as to function and quality, feeling covers every aspect or expression of consciousness. For what is instinct in the animal and the savage but the power of feeling, arising in the entities of natural evolution, as pure motive—less motion of consciousness, for the elaboration into self-consciousness through the action and interaction, in the subsequent human evolution of thought, will and ratiocination. And, on the other hand, is not intuition the same quality of consciousness, only exalted to the power of self-consciousness? Thus, instinct is feeling below personal selfconsciousness; intuition, feeling above personal consciousness. The former governs unconditionally, and, like an elemental force, orders and directs the movements of the entities without their own choice; the other directs by appeals to selfconsciousness and personal judgment, and is conditioned by choice. The point of identity, however, between the two modes of intelligence, is found in their independence of mind and reason for the source of their intelligence.

6. Feeling the Driving Force and Genius in Art and Science.—A force which underlies the whole zone of conscious life must naturally possess the greatest importance in human evolution. In it must be found the substratum for any mode of individual development. The artist, not less than the artisan; the philosopher, not less than the scientist, to advance successfully on chaos and the unknown, must alike place themselves under the inspiring and directing influence of feeling. Every step leading out of the conventional and dogmatic routine of life must proceed through feeling. Genius is feeling applied to the interpretation of life in things and events; while a science, in its general acceptation, means the organization and classification of this interpretation in terms of concrete and specific methods. Hence, if devoid of individual power of feeling, the scientist must either accept the interpretation of feelings, as presented by genius, or remain in the trampmill of conventionally-fixed and crystallized facts. Feeling directs, science (if following the injunction) discovers; while philosophy applies the result to the humanizing issues of social and moral evolution.

The Greeks have shown us the power of feeling in the plastic arts; the eighteenth century Germans, with Wagner and Beethoven in the front, have demonstrated to us the basic relation of feeling to the art of music; while thinkers of the Emerson, Whitman and Carlyle class have pointed out the way by which feeling can be made a factor in the philosophy of life. Thus, in all true expressions of evolution, feeling constitutes the subtile medium of true life, the mystic ether of the sphere of ideas, transmitting the visions of an archtypal world into the perception and conception of the seer. Plato was right: "Ideas rule the world"—but feeling is the medium for ideas; and as a force-current for its strength and accuracy of application, depends on the quality of its conducting media, so the greatness and lucidity of the idea depends on the truth-

fulness and purity of the feeling. Hence, it is self-evident that the central fact and condition for every successful effort of an individual's development consists in the purification and exaltation of his sphere of feelings.

7. *Feeling, the "Wireless" in Mental and Moral Evolution.*—And this fact holds out before us not only a duty to ourselves in our search for wisdom and power, but, likewise, a duty to our fellowmen, who are, consciously or unconsciously, voluntarily or involuntarily, sharers of our feelings. Most people regard indulgence in feelings as an individual, inalienable right, providing they refrain from expressing them in words or deeds. Yet it is readily seen that no feeling is strictly individual—no more so than the air we inhale and exhale; which means that we impart the quality of a feeling to whomsoever coming within its sphere of influence. Thus, to entertain a feeling, means to endow it with added vitality and power for either good or bad in our own life, or in the lives and destinies of others. According to the strength of the feeling will it succeed in imparting color to our emotions and elevation to our ideals, while the ensuing reactions furnish impulses for construction of our character and judgment. Feeling is the "wireless" in the moral world, by which the minds communicate across the abysses of the known and the unknown—the objective and the subjective states of consciousness. Thus, the beautiful, the moral, the true, the sublime and eternal, are not only revealed to the individual who, in his mode of living sustains corresponding feelings, but the latter ignite and render living these powers in the popular consciousness, fashioning and qualifying the social ideals of humanity; while, on the other hand, the vicious, selfish, ignoble, false and fleeting, through corresponding feelings, are stimulated into flagrant influences in the moral world, weakening and polluting the vital forces of humanity. Hence, it is through the gateway of feeling that the subjective world, with its beauty and ugliness, its holiness and baseness, its truth and falsehood, are asserting their influence as appreciable factors in the moral consciousness of the individual.

(To be continued.)

[Written for the MEDICAL BRIEF.]

Americanization.

BY SILAS HUBBARD, M. D.,
East Aurora, N. Y.

I would not have the reader understand by the above term that there is any disease or wrong in the constitution of Americans; but I wish to point out some facts regarding their development of constitution, both of the men and of the women.

The men and the women who are born and raised in the United States are generally larger every way, especially in stature, than their parents who were born and raised in foreign countries, and this extra growth and development is continued a number of generations, and also permanently by fair usage, in this country. This growth attains its maximum in Kentucky. The Kentuckians average in height and weight more than in any other State, *e. g.*, Abraham Lincoln, our renowned former president, was a native of Kentucky.

I do not say that this extra growth, unless abnormal, is detrimental to the individual. It is true that if a man becomes a giant his life is comparatively short.

The native Americans who are raised in this country, besides being generally larger physically, also generally are larger intellectually than the foreign born.

I expect the Americans, excepting the negroes, are also greater in morals than the foreign born, for there are a less number of Americans get in our prisons and alms houses than do the foreign immigrants.

It is no calamity that Americans take on an extra growth of body, mind and morals. The Americans take on an extra growth of health. They are the healthiest people of the world and consume less alcohol.

The native children of the United States at birth average much larger every way than the foreign born. One reason that the children of the American born are generally larger is because food is more abundant.

The United States people assist the famished of other nations, but have never

required other nations to assist them on account of scarceness of food. It is mainly on account of the extraordinary enterprise of the people of the United States that they help the people of other nations when famished; but never require that from others, and the same causes which promote the development and growth of the people of the United States influences the extra growth of the native infants, viz., the mothers are better fed than the mothers of foreigners.

The people of Europe are not kept as comfortably warm in cool weather as are the people of the United States, which tends to make them (the Europeans) shorter and more stocky.

It is possible that there is something in the climate of the United States which also encourages development and growth; however that may be, the population of the United States is not so over-crowded as among the Europeans, which surely, like isolated trees, would favor a superior growth of the people, especially in the rural districts.

The effect of superior food, exercise, climate, cultivation, etc., on nine million descendants of the African race in America has caused them to be taller and heavier than the native Africans. Their faces are not quite as prognatheous, and their noses are a little more prominent. In getting acclimated to this new climate they did not feel the necessity of filling the lungs as full of the dense, heavy air of this temperate climate that they did in the rarefied air of the torrid zone, consequently, in this cool and temperate climate, frequently some portion of their lungs (usually the apex), not being used, pneumonia and tuberculosis frequently seized them, and thus their average life was not, and even yet is not, as great as the average life of the white people of this climate.

Largeness of thorax and lungs is ordinarily considered favorable, but like the ordinary negro, very many ignorant white men with large thorax and lungs frequently do not use all the lungs they possess, and thus the cells of the unused portions collapse and fall upon each other; and thus pneumonia, or tuberculosis of the unused portion of the lungs, often occurs, and spreads, and they come to an untimely death. The fact is, every person of every nationality who have come to the age of discretion, whether they have large or moderate or small lungs, ought in the open pure air voluntarily fill their lungs with pure air a number of times each day.

The athlete who has acquired a great amount of hardness and muscular tissue must continue to a considerable degree to exercise, or he falls into disease more readily than those who have had moderate exercise.

As a partial illustration of the superior strength and size of Americans I might mention the athletes of America, who obtain a much greater number of prizes in athletic sports with Europeans than do the latter, and even in war the United States navy captured of the most enlightened nation a greater number of ships than did their enemy, and on land they gained a greater number of battles than did their enemy.

This superior growth is not confined to the physical structure in general, but the brain of the Americans also partakes of the benefit, for during the last century the Americans have made more inventions and discoveries in science than all Europe.

There is a certain Dr. Charles E. Woodruff, surgeon in the United States army, who gloomily says, in substance, that our excessive light is driving the blond races of Europe who settle here, and their descendants, into nervousness and neurasthenia and death, and such as it does not kill, after many generations of evolution generally will become brunettes. I will say that it is not the excessive light of the United States that excessively drives the blond immigrants and blond natives of the United States into the aforesaid nervous diseases, and even premature death; but they being of the nervo-sanguine temperament are naturally more susceptible of impressions, and more sensitive, excitable and nervous than the brunettes, and that the excessive hurry of American life in business and improvements, and even sports, render the naturally excessively excitable blonds more nervous and oftener neurasthenic and even insane than the less excitable and more enduring brunettes, especially if the blonds indulge in alcoholics; for they can

tolerate alcoholics far less in this climate than the brunettes, and the people in more northerly climates.

The only argument in favor of the immigration of Italians to this country is that already they are partially fitted by nature and complexion to endure our light and climate, and there would be a good prospect of their taking on a better growth, and becoming good citizens of the United States, providing that they were not hastily admitted in greater numbers than they could properly be Americanized.

I do not agree with Dr. Charles E. Woodruff that the light of our latitude is ruining the blond races who immigrate to this country and their descendants, for they are among our best immigrants and descendants and continue so through every generation we have witnessed; and I have no doubt will continue so through all future generations.

The amalgamation of the different races and their descendants in this country mutually remedy each other's defects and accentuate each other's virtues, so that with other causes I have named this nation will continue to be the greatest nation in the world.

The Jews, a very intellectual race, improve by transplanting in this country, though by being mainly interbred more than four thousand years wherever they dwell, are more prone to neurasthenia and insanity than other races.

Luther Burbank says: "As time goes on in its endless course, environment will crystallize the American nation. Its varying elements will become unified and the weeding out process will probably leave the finest human product ever known. The color, the perfume, the size and form that are placed in the plants will have their analogies in the composite, the American of the future."

[Written for the MEDICAL BRIEF.]

Typhoid Fever.

BY R. A. FRAYSER, M. D.,
Richmond, Va.

In looking over my clippings from medical journals for more than forty years, I find one taken from the BRIEF written by Geo. Kidwell, Greenwood, Ark., in which he claims that typhoid fever can be aborted in from three to five days, by using the following compound:

℞ Syr. Rhei.....4 ounces.
Oil Sassafras.....20 drops.
Piperin.....10 grains.
Sub. Carb. Soda.....20 grains.

M. Add Tinct. Valerian two ounces. Sig.: Teaspoonful doses from one to three hours, as symptoms demand.

How many of the brethren have tried and can verify this treatment? The doctor gives the medicine in twice its bulk of sweet milk. Turn on the light, that we may find, and kill the bugs.

2306 Floyd Avenue.

[Written for the MEDICAL BRIEF.]

Differential Diagnosis—"Let Us Have Light."

BY JOSEPH JOHNSTONE, M. D.,
San Juan del Norte, Nicaragua.

Clinical and physical diagnosis does not always receive the time and attention necessary on the part of the medical man or attendant. The initial history of each case is often neglected, and symptoms only observed to make the diagnosis on which to base the necessary data for the prescription by the busy practitioner, only to be repented of later, perhaps when the case falls into the hands of another, or passes from sight. Apropos of the looseness of methods, it must give to the thinking physician an immense impetus for a better clinical research. A case of recent date that came to my notice illustrates to some extent the fallacy of the simple arrangement of symptoms, *i. e.*, an outward view without an inward investigation and examination clinically to arrive at a sound and logical diagnosis.

A young girl, E. J., was attacked suddenly with a convulsion. I was called in a hurry, and although at luncheon, I immediately responded, as the exigency of the case demanded. The patient, about sixteen years of age, I found on a pallet on the floor surrounded by a number of persons, and also the members of her own family, both male and female. On examination I found the mouth closed, teeth firmly set, the head violently moved from side to side and forward, the eyes slightly dilated, the body and limbs in considerable contortions with opisthotonos and emprosthotonos, but no froth from the mouth. Her menstruation had appeared on the night

before, and not caring to prolong the investigation, although convinced that there was some cause in the previous history or life of this young girl of which I was not yet informed, that was a factor to her present state; and as the convulsions were strong, and the parents desirous of relief, without any further delay I ordered an enema containing asafetida and pot. bromid. which was given at once, and had the desired effect; the convulsions ceasing in a short time, and her conditions became again normal. Although I was anxious to make a clear diagnosis, I was not again called until five days afterwards, when the convulsions were again repeated. This time I noticed no clonic movements. She had complained of a lump in the epigastric region and a sensation of choking, evidently "globus hystericus," and after a most careful examination I concluded and was convinced that the irritant cause of the condition was due to ascaris lumbricoides and indigestion.

The same enema was again ordered, with the same result as before, and I then informed the parents that the girl had worms, and that she required an anthelmintic, which I would prescribe later, but the parents, now thinking that they knew the cause, at once undertook to do the prescribing themselves, as I understand afterwards, giving santonic oil, a half drachm or more, in ol. ricini, which, of course produced the effect, bringing away about thirty-five to forty long, round worms. Now comes the sequelæ: The convulsions continued. I was again called, and found the girl quiet, but she complained of dimness of sight, pain in the back of the head, the temperature was abnormal, 102 5/10° F. After very careful questioning I considered that too large a dose of the santonic oil had been administered, the strength of which frequently varies considerably in the different brands or makes; and while it had done good it was also harmful, and was the partial cause of the continuation of the convulsions. It is a well-known therapeutical fact that this drug will cause convulsions, and further, it has been fully demonstrated in these semi-tropical climes, that the existing cachexia and peculiar diathesis of the children of these countries makes them very susceptible to the action of many drugs, and in many instances a minimum rather than a maximum dose must be the rule, or trouble will result and the ill-effects remain perhaps, for years; this is no hearsay, but the evidence of long experience.

I continued to treat the girl for two days. Her condition during the time was slight fever, pain in the back of the head, constipation and convulsions, very slight, now and again, without complete loss of consciousness. Under my treatment she seemed to improve, yet, on the second day, in the afternoon, she again had another strong convulsion, but, unfortunately, I (myself) had been for some days indisposed, and on this same evening I became so much worse that I had to refuse the urgent call, and being confined to my bed, could not respond at once. The parents then, without further consultation with me, at once called another practitioner, who, without the slightest pretension of professional courtesy, took hold of the case, not knowing or asking anything regarding the previous treatment, and went to work in the dark. Of course, neither the parents nor the medical attendant may have thought it necessary, but the father informed me, on the following day, that another practitioner had been called, and had told him that the girl would be all right in a day or two, and a prescription had been given that would soon cure her. This naturally ended any further attention on my part, and being still very ill, I heard nothing more of the case for about two weeks, when I was informed that the diagnosis given at first by the attendant, had been changed from time to time as the gravity of the case continued, and, at last, after the lapse of some time, during which the convulsions still persisted in spite of all treatment a diagnosis of true epilepsy was given out, and so the case was treated.

Another practitioner was also called, who, it appears, did not exactly concur in the opinion of the physician in charge, although the same prescriptions were continued for a time, but later on, when things began to look doubtful, a regular shotgun treatment was adopted, a sort of "go-as-you-please" plan, friends and the "I-told-you-so" ones were allowed to participate; the cry of the suffering one then broke forth in the sad wail of "let me die

in peace," and on the top of this last demand came the grave prognosis of the doctor: "She will die." Hands were then thrown up in anguish and despair; the coffin was ordered to be made and finished, the shroud was purchased, and everything prepared for a nice funeral as the last act to a loved one. "*Requiescat in pace.*" But the patient was rebellious; she declined to die, and the case proceeded as before.

The previous and subsequent history of this case does not seem to me to confirm the diagnosis of true epilepsy. It appears that on the day before the attack, or, rather, the first convulsion, this girl was severely chastised, just at meal time, and she underwent considerable excitement at the time of eating, the food she was taking was evidently not properly digested, and for that reason, as a feeling of malacia and nausea was complained of, a lump was felt in the throat and stomach, etc. The nervous excitement, the psychical cause, may have been the exciting spark, the choking sensation, "globus hystericus," clearly prominent, the epigastric aura, plainly explained, and again the ascaris, the irritant cause of the convulsions, together with the minor causes surrounding the case, and last but not least the additional irritant, the physiological action of the santonic oil, and yet further the hereditary history; the mother being of a nervous temperament and on frequent occasions suffered from hysterical convulsion. The character of the convulsion, the head movements and the apparent loss of control, no involuntary micturation or defecation, no head injury, no cry, no biting of the tongue, little or no sleep after the attack, the patient sometimes passing two or three nights sleepless, the duration of the convulsions from half an hour to eight hours or more, jumping sometimes during an attack straight out of bed, and afterwards irrational and at times delirious for hours; no stertor, no coma, strabismus, but this congenital. She would groan and mutter confused, irrational medley of words after a fit. The condition and convulsions continued in spite of treatment, as I was informed, for about forty days, perhaps more, and more or less the condition was just the same all through, notwithstanding the treatment of inhalations of chloroform and large doses of bromid, chloral, besides electricity, blisters, purges, etc., and also a large dose of santonin, which it appears produced a very deleterious effect, causing *per se* stronger convulsions and great excitability. At last and suddenly, things became normal, the trouble subsided except for great weakness.

In summing up all of the history and symptoms of the case and after giving due consideration to each and every fact of the condition, I am of the opinion that the diagnosis should have been epileptiform, hysterical convulsions, at least combined, in all probability, with hysteria, and not true epilepsy. The psychologic disturbances predominated all through the case and the physiological action of the irritant drug at both times, first the oil and afterwards the alkaloid, evidently produced complications which clouded clear diagnostic signs and may have to some extent given color to true epilepsy, but in continuation a predisposition usually exists, or direct cause, *i. e.*, injury, etc., to bring forth true epilepsy, and in my opinion, as I have before stated and in which I am borne out by the standard medical writers on the subject, viz.: Pelmant, Vernet, Jules Morel, Spratling, Kovalovsky, Kolle, Féré, Tuke, Gower, Hughling-Jackson, Binswanger, Nothnagel, Russell, Chose, Voisin, Collins, Echeverria, Prof. Lockhart, and a host of others. The diagnosis of the type of the convulsion itself is of the most importance; that there are clinical symptoms that may lead to error, but careful observation and a proper classification of the present and hereditary history, the etiologic factor, of each case, either direct or indirect, and also the psychic causes—if analysis of all these conditions be minutely investigated and proper thought be given, then the differential diagnosis will be clearly decided, and so in my opinion it was the want of the proper weight and value of each and every symptom, together with the past and present history in the above mentioned case, that led to an erroneous diagnosis and also, perhaps, treatment.

My only apology for the length of this article, is the knowledge of the BRIEF's kind forebearance and ever-ready offer to assist whoever asks.

Am I right, dear Doctor? Was it true epilepsy or not? "Investigation of the truth brings knowledge." *Cum bonâ veniâ.*

[Written for the MEDICAL BRIEF.]

The Perineum.

BY SILAS HUBBARD, M. D.,
East Aurora, N. Y.

I believe I was the first to publish the importance of stretching the perineum during labor at the proper time, to prepare it to give exit to the head in natural labor, without endangering the perineum. I see that some physicians in the medical journals are condemning the practice. I would condemn the practice in all physicians whose touch and hands are only fit for a blacksmith, for they would do more harm than good.

In my younger days I have, a number of times, been so unfortunate as to be present with a coarse woman or her coarse female attendant, who would oppose the procedure, but, ordinarily, the patient would express herself as relieved.

I have recorded five hundred and sixty cases of obstetrics that I have attended, and never had but one woman complain that she was lacerated, and that was my thirtieth obstetrical case. The laceration was slight and. she recovered without stitches. Ever after this I used unusual care, and used an unusual amount of grease as a lubricant, and very often, when I judged proper, stretched the perineum in the absence of the pain, and when the pain came on I let the pain do the stretching and frequently, toward the last of labor, instead of stretching the perineum, I supported it to prevent its too rapid stretching and endangerment to rupture. The educated physician's touch will tell him when to stretch and how to prevent and regulate the stretching.

Among mankind there are all degrees of hearing, seeing and touch. Some physicians are so deficient in the sense of touch that they never can be successful obstetricians.

Many obstetricians, in attending labor cases, depend more on sight than touch. I never exposed the perineum to sight in labor cases. I always depended wholly on touch, and even in catheterization of women I always depended on touch. I do not condemn physicians for depending on sight if they are deficient in touch.

The perineum is not disagreeably sensitive to proper stretching in labor; frequently the patient expresses relief by the obstetrician stretching the perineum at the proper time, although in labor they are very averse to having their anterior genitals touched.

Besides direct managing of the perineum, keep it whole. Very much can be done to preserve it and facilitate labor by keeping the head of the child moving in the right position and direction by the "position of the woman in labor," as published by me in 1899 in the MEDICAL BRIEF.

I observed recently in the MEDICAL BRIEF some one opposing the operation of stretching the perineum in labor, and said the obstruction was among the pelvic bones of the mother and not the perineum. I acknowledge that sometimes there is a disproportion of the size of the head and the diameters of the osseous outlet of the pelvis, but this does not preclude the fact that frequently the soft parts of the outlet of the pelvis are so hard and contracted that they need dilating as aforesaid. I see that some eminent professors are beginning to advocate it.

[Written for the MEDICAL BRIEF.]

Morphinism.

BY ARTHUR FOURNIER, M. D.,
Ste. Anne de Beaupre,
Quebec, Canada.

Could any of the readers of the BRIEF give me a good treatment to cure opiate habit?

Every summer a large number of morphinomanias" receiving no help from their home doctor, to cure them from this habit, come to Ste. Anne for help and cure. A good many call on me for help and treatment, but I must say that I have had very little success, and so did specialists that were called with me, so I have an idea to call upon the profession, both of the States and Canada, for a treatment in such cases..

The treatment so much advertised by some of our profession, especially in the Western States, is it any good?

You would oblige a great many opium users to put this question to BRIEF readers.

[Written for the MEDICAL BRIEF.]

"The Story of Adam and Eve."

BY CHARLES D. GURNEY, ESQ.,
Victor, Colo.

Dr. C. A. Whiting states in his article entitled "The Story of Adam and Eve," in your July issue, that so far as he is able to get at the truth, no historian pretends to know anything of the origin of the story referred to. I would refer him to a book entitled, "Babel and the Bible," edited by Professor Johns, of Cambridge University, England, and being a translation of two lectures by Professor Friedrich Delitzsch, delivered before the members of the Deutsche Orient-Gesellschaft, in the presence of the German Emperor. I quote the following from pages 55 and 56:

"The problem as to the origin of the Biblical story of the fall is second to none in significance, in its bearings on the history of religion, and above all for New Testament theology, which, as is well known, sets off against the first Adam, through whom sin and death came into the world, the second Adam. Perhaps we may be permitted to lift the veil a little. May we point to an old Babylonian cylinder-seal (Fig. 39)?" (Fig. 39 is a wood-cut entitled "Babylonian representataion of the fall.") "Here, in the middle, is the tree with hanging fruit; on the right the man, to be recognized by the horns, the symbol of strength; on the left the woman, both reaching out their hands to the fruit, and behind the woman the serpent. Should there not be a connection between this old Babylonian representation and the Biblical story of the fall?"

I quote again from page 114, being a note to this paragraph which appeared in the first lecture:

"P. 56. *The Fall.*—Anyone who reads my remarks on p. 55 without bias must admit that in dealing with the representation of a Babylonian seal (Fig. 39), reproduced on page 56, on the one hand, and with the Biblical story of the Fall, on the other, my only aim was to emphasize the circumstance that the serpent as the corrupter of the woman is a significant feature common to both. The fact that the two Babylonian figures are clothed, naturally prevented me, also, from regarding the tree as the tree 'of knowledge of good and evil.' It seems to me at least probable that there may be traced in the Biblical narrative in Gen., chap. 11 sq., another and older form which recognized but one tree in the middle of the garden —the Tree of Life. Note how in ii. 9, the words, 'and the tree of the knowledge of good and evil' seem to be tacked on, as it were, and how the narrator, busied with the newly introduced tree of knowledge, so entirely forgets the tree of life (see iii. 3), that in ii. 16 he, quite inadvertently, actually makes God allow man to eat of the tree of life (in contradiction with iii. 22).

In regard to the tree, and that alone, I agree with the late C. P. Tiele when he sees in the Babylonian representation "a God with his male or female worshipers partaking of the fruit of the tree of life," "a picture of the hope of immortality," as also with Hommel, who observes (p. 23): "The most important point is that it is quite evident that the tree was originally thought of as a conifer—a pine or cedar—whose fruit increased the power of life, and of procreation; there is accordingly an unmistakable allusion to the holy cedar of Eridu, the typical tree of Paradise in the Chaldean and Babylonian legends."

Jensen, also (col. 488) decides as follows: "If the representation has any reference to the story of the Fall, it might most preferably represent a scene in which a god forbids the first created woman to partake of the fruit of the tree of life." That one of these figures is distinguished by horns, the usual symbol of strength and conquest (see Amos vi, 13) in Babylonia as also in Israel, is, I take it, a very fine touch on the part of the artist, indicating unmistakably the different sexes of the two clothed human figures; and whoever prefers to see in the serpent behind the woman a "crooked stroke," "an ornamental dividing line," may do so—few will agree with him.

Many scholars are of the same opinion as myself. So Hommel, for instance (p. 23): "The woman and the writhing serpent behind her express themselves clearly enough," and Jensen (col. 488): "A serpent stands or crawls behind the woman," etc.

[Written for the MEDICAL BRIEF.]

"Thief! Thief! Stop the Thief!"

BY A. D. HARD, M. D., PH. G.,
Marshall, Minn,

When you hear some loud-mouthed, saintly-appearing individual shouting, "Thief! Thief! Stop the thief!" keep a sharp eye on him, he may be the thief.

It has been said in public addresses, and been editorially stated in prominent medical magazines of late, that the country doctor brings cases of major surgery to the cities, and peddles them out to the surgeon who will give him the most cash out of the fee collected. I firmly believe that all such statements are willful, deliberate lies. I do not believe that any surgeon or editor, making such statements, can point out an instance of such an act to save his soul from going to the place where it naturally belongs. I believe that all such statements are made by selfish, dishonest surgical hogs, or by editors who wish to court their friendship. I believe that the country doctor who skillfully diagnosis a case of major surgery, and gives his carefully-worded professional opinion to guide the conduct of the case in the details which lead up to the operation, is entitled to at least one-half as much for his services as the surgeon who does the operating part. I believe that statements to the contrary are made by none but surgical hogs, hogs having the hypertrophied cheek to ask the country doctor to do a large amount of professional work, assume a grave responsibility, and silently permit his hogship to sweep the entire fees for the complete treatment into his greedy pockets. I believe that one reason for all this ado about "commissions" and "divided fees" is that the country doctor may be bluffed into silence, while the robbery is going on. I believe that familiarity breeds contempt for ability, and the country doctor is seldom considered as competent as he really is, or his services as worthy of usual compensation, by those who have brought their trivial complaints to him for years for gratituous consideration.

I believe that it is just as well, yes, far better, considering the lack of proper facilities, and this tendency to underrate the country doctor's ability, and the value of his services, that his cases of major surgery should be taken to a good hospital, and the operating should be done by a professional surgeon of more than ordinary experience. But I believe that those surgeons who try to hog the entire fee, not permitting the country doctor to get adequate pay for his service without making the total fee excessive, are driving him into doing much operating work which he should not attempt.

I believe that this matter of so-called "dividing fees," has been agitated by selfish, dishonest surgeons, who want more money than they are rightfully entitled to out of the cases brought to them. I believe that it is high time that this matter be presented to the country doctors in its true light.

[Written for the MEDICAL BRIEF.]

Cactus as a Heart Remedy.

BY J. A. BURNETT, M. D.,
Dean Spring, Ark.

Many physicians do not know the great value of cactus as a heart remedy. It is in my opinion, and according to my experience, the most valuable heart remedy in the materia medica, and should be better known. If it was better known it would often be used in place of digitalis and other toxic agents. Cactus is a non-toxic agent, and safe in all conditions.

I treated a girl, aged five years, for skip-beat of the heart, which was of two or three years standing, with cactus, and soon cured her. It only occurred when she was asleep—beats regular when awake.

When the heart is overworked by masturbation or sexual excess, cactus will prove to be of value. It is also of value in tobacco heart.

In the last stages of fevers, pneumonia, and all exhaustive diseases, cactus will prove to be of great value. In all heart diseases, or waverings, such as feeble, violent or irregular, cactus will prove to be of value. It is useful in carditis, myocarditis, endocarditis, pericarditis, angina pectoris, and various other heart complications. Pain of a constrictive character is a direct indication for cactus, also shortness of breath on slight exertion.

Cactus is a remedy that must be used to be fully appreciated.

Book Notices.

A TEXT-BOOK OF DISEASES OF WOMEN. By Barton Cooke Hirst, M. D., Professor of Obstetrics, University of Pennsylvania. Second edition, revised and enlarged. Octavo of seven hundred and forty-one pages, with seven hundred and one original illustrations, many in colors. Philadelphia and London: W. B. Saunders & Company. Cloth, $5.00; sheep or half morocco, $6.00.

Dr. Hirst may well be congratulated upon the publication of such a work as this, a second edition of which has just appeared. Written on the same lines as his "Text-Book of Obstetrics," to which it may be called a companion volume, it gives every promise of attaining a similar success. The palliative treatment of diseases of women and such curative treatment as can be carried out by the general practitioner have been given special attention, enabling physicians to treat many of their patients without referring them to a specialist. Indeed, throughout the book great stress has been laid upon diagnosis and treatment, and the section devoted to a detailed description of modern gynecic operations is without doubt the most clear and concise we have yet read. In this second edition, the revision has been thorough, introducing, however, only such matter that promises or has been demonstrated to be of permanent value. Forty-seven new illustrations have been added, and thirty of the old ones replaced, the work now containing a collection of seven hundred and one beautiful original illustrations, many of them in colors. We take much pleasure in recommending Dr. Hirst's work to the medical profession generally.

A COMPEND OF PHARMACY. By F. E. Stewart, M. D., Ph.G. Based upon Professor Joseph P. Remington's "Text-Book of Pharmacy," and the U. S. Pharmacopeia, eighth revision (1905). Sixth edition, revised and enlarged. With a very complete Index, and Table for Converting English Measures into Metric and the Reverse. Philadelphia: P. Blakiston's Son & Co. Price, $1.00.

This is one of the Quiz Compends that has made the house of Blakiston's so well known as publishers of standard medical works. The object of these Compends is to present information of special service to students in memorizing the important points in medicine, and the allied sciences. All students wish to pass their examination in a credible manner, therefore, the Compends refresh their memories on all important points.

A TREATISE ON SURGERY. In two volumes. By George R. Fowler, M. D., Examiner in Surgery, Board of Medical Examiners of the Regents of the University of the State of New York; Emeritus Professor of Surgery in the New York Polyclinic, etc. Two imperial octavos of seven hundred and twenty-five pages each, with eight hundred and eighty-eight text illustrations and four colored plates, all original. Philadelphia and London: W. B. Saunders Company, 1906. Per set: Cloth, $15.00; half morocco, $17.00.

Dr. Fowler's endeavors in the field of practical surgery have been such as to stamp his writings with unquestionable authority. The work is a masterpiece. It is an accurate, up-to-date treatise on surgery, skilfully presented. This entirely new work presents the science and art of surgery as it is practised to-day. The first part of the work deals with general surgery, and embraces what is usually included under the head of principles of surgery. Special attention is given to the subject of inflammation from the surgeon's point of view. The sections worthy of mention are on the injuries and diseases of separate tissues, gunshot injuries, acute wound diseases, chronic surgical infections (including syphilis), tumors, surgical operations in general, foreign bodies, and bandaging. The second part of the work is really the clinical portion, devoted to regional surgery. Herein the author especially endeavors to emphasize those injuries and surgical diseases that are of the greatest importance, not only because of their frequency, but also because of the difficulty of diagnosis and the special care demanded in their treatment. Throughout special attention has been given to diagnosis, the section on laboratory aids being unusually excellent. The text is elaborately illustrated with entirely new and original illustrations, and evidently neither labor nor expense have been spared to bring this feature of the work up to the highest standard of artistic and practical excellence.

MODERN PHYSIO-THERAPY. A System of Drugless Therapeutic Methods. Including a Chapter on X-Ray Diagnosis. By Otto Juettner, A. M., Sc. M., M. D., M. E., rh. D., Professor of Practice at the Cincinnati Post-Graduate School of Psychological Therapeutics; Associate Editor of the "Journal of Physical Therapy," and "International Journal of Therapy," Fellow American Electro-Therapeutic Association, Member Röentgen Society, London, Eng., etc. Cincinnati: Harvey Publishing Co. Price, $6.00.

Dr. Juettner is known to our readers from his contributions to the BRIEF, therefore we need only to call attention to this work as the most complete on the subject that has come to our notice. That physio-therapy is a valuable adjunct to the practice of medicine none can dispute, and is synonymous with scientific medical practice. The author says that from a purely physiological standpoint the Friday ordinance of the Catholic Church has much to recommend it. If the ordinance were extended to every second day, beneficent results would most certainly follow. The mere announcement of the publication of this book has resulted in such a great demand for it that the edition was increased four-fold to meet the advance orders. If you wish a copy send soon.

SURGICAL SUGGESTIONS. Practical Brevities in Surgical Diagnosis and Treatment. By Walter M. Brickner, M. D., Chief of Surgical Department, Mount Sinai Hospital Dispensary, New York; Editor *American Journal of Surgery*, and Eli Moschcowitz, M. D., Assistant Physician, Mount Sinai Hospital Dispensary, New York; Editorial Associate, *American Journal of Surgery*. Duodecimo; 60 pages. New York: Surgery Publishing Co., 1906. Price, cloth, 50 cents.

This little book is most novel, not only on account of the many original terse and epigrammatic practical suggestions given, but its general appearance and attractive form. It contains two hundred and fifty suggestions grouped under proper headings and its contents are carefully indexed. While some of the items are familiar to the practical surgeon, they are presented in a manner that will impress them on the reader's memory. The book is bound in heavy cloth, stamped in gold, and the text is printed upon India tint paper with marginal headings in red. This book will be much appreciated by the general practitioner, not alone on account of the value of its contents, but as an artistic bit of book making.

CASE TEACHING IN MEDICINE. A Series of Graduated Exercises in the Differential Diagnosis, Prognosis and Treatment of Actual Cases of Disease. By Richard C. Cabot, A. B., M. D. (Harvard), Instructor in Medicine in the Harvard Medical School, and Physician to out-Patients at the Massachusetts General Hospital. Boston: D. C. Heath & Co., Publishers. Price, $1.50.

The teaching of practice in this work is new and up-to-date. It is composed of the personal practice of Dr. Cabot and some other eminent teachers, and has proven successful. The introduction describes the author's plan. The book has three complete and useful indexes. This is the teachers' and physicians' edition. The students' edition is identical, except that all answers are omitted. There are seventy-eight histories. Each is of special value in teaching and is followed by questions, answers, diagnosis, prognosis, treatment. Blank leaves are left in the students' edition to be filled in by himself.

ECZEMA. A Consideration of Its Course, Diagnosis and Treatment, Embracing Many Points of Practical Importance, and Containing One Hundred and Forty-Six Prescriptions, Illustrating Dosage in Local Applications. By Samuel Horton Brown, M. D., Assistant Dermatologist, Philadelphia Hospital; Dermatologist, Southern Dispensary; Assistant Dermatologist, University Hospital Dispensary, etc. Philadelphia: P. Blakiston's Son & Co. Price, $1.00.

The Preface of this work explains the nature of the work in a plainer sense than we could do, so we give it: "This arrangement of the common knowledge regarding eczema has been devised with the hope that it will render the study of the disease more convenient than has been done by the other works extant. The dogmatic manner in which some of the facts have been presented will, doubtless, be pardoned when it is recalled that any statement, no matter how true, loses weight when qualified. Accordingly, in the treatment, the physician who consults these pages will be agreeably surprised to find explicit directions for the care of the case."

THE MEDICAL BRIEF

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Editorial.

Food Adulteration in Germany.

There are a great many well-meaning people who indulge the hope that now we have a national law against food and drug adulteration, this great evil will soon be a thing of the past. We are afraid, however, that these optimistic individuals are doomed to cruel disappointment. Germany has had a very stringent pure food and drug law for many years, and it has been executed with vigor and intelligence. But if we can believe a report of the United States Consul at Kehl, adulteration is still very general there, and it is doubtful if it is any less prevalent than it was twenty years ago.

There is no question that the chemists, experts and administrative officers in Germany are of a higher class than those in this country, and, besides, the German people resent less, because they are more accustomed to having their business affairs pried into by meddlesome officials than do the people of the United States. And, if under such conditions, a law of the kind is not a success in Germany, what reason have we to expect any different result in this country? It is not well to put too much faith in the power of a law to effect a reform of any kind.

The report of Consul Brittain is as follows:

In an article published by the *Strassburger Post* recently, giving a short history of the fight against adulteration in Germany, it was stated that according to statistics collected by Doctor Juckenack, of Berlin, there were in Germany in 1888 one thousand, four hundred prosecutions for adulterating food products; in 1898 the number had increased to three thousand; in 1901 to three thousand, five hundred and eighty-six, and in 1903 to six thousand. * * *

It was discovered that many large and reputable firms were carrying on privately special departments of their factories, where regular chemists were employed to scientifically adulterate the food products manufactured by the firms. Not two years ago in Berlin thirty butter manufacturers were summoned before the courts for an almost incredible adulteration of their wares, and recently a sausage manufacturer of honorable renown was before the court for filthy adulteration of sausages. * * *

Canned fruit is colored, and it is rare in Germany to see a glass can of fruit which does not present a highly artistic appearance. The writer of the article spares his readers,

out of consideration for their appetites, a description of the methods of manufacturing lard and sausages, revealed in court proceedings.

The Strassburg papers recently reported the arrest of a butcher of Alsace-Lorraine for manufacturing sausages from spoiled meat, colored and doctored with chemicals, and few weeks pass in Strassburg without the arrest of market women for adulterating butter. Wines, chocolate, cocoa and brandies are largely adulterated, and medicines have been discovered to contain absolutely injurious and dangerous substances, used for the purposes of adulteration. In a list made recently in one of the large cities of twenty-eight samples of medicines fourteen were discovered to be not only impure but injurious as well. Cosmetics come in for their share of condemnation. Cologne water adulterated with orange flower water is harmless, but worthless as well, and sells for many times its value. According to the writer in the *Strassburger Post, there seems to have been very few articles of food and drink products of the pharmacy which have not been the subject of adulteration on the part of the German manufacturer.*

"All Talkee."

The doctor who is always talking about how ethical he is, is like the politician who is always talking about how much he loves the dear people. Neither can be trusted. In Indian slang, it is "All talkee and no do."

Fads.

It has been said of Grover Cleveland that he has the knack of expressing an opposing view in such a way as not to give offense, but we will come out bluntly and say there are some popular fads we have never been tempted to follow. One of these is the custom imported from England of using a "V" in place of a "U," in such words as "Trust," "Universal," and "United." We wonder if the title pages of some "Editions de Luxe," and other elegant examples of present-day printing, jar on the eyes of any of our readers for the same reason? Personally, we often hesitate to look at our magnificent, modern bank buildings, libraries and court houses for fear of meeting this affectation of lettering. American men will doubtless persist in their pet fad of thinking foreign-made products better than those manufactured in this country, but they will never give women the right to vote until they put pockets in their dresses and quit carrying purses and other valuables in their hands.

[Written for the MEDICAL BRIEF.]

Treatment of Typhoid Fever Simplified.

BY H. W. ROVER, M. D.,

Professor of Materia Medica in the Denver-Gross College of Medicine; Visiting Physician to St. Anthony's Hospital.
Denver, Colo.

There is no specific treatment in typhoid fever, hence no one treatment is applicable to all cases. Certain symptoms and conditions are, however, common to all cases of typhoid, and these must be met as they arise. Prognosis can be made for the day only, but each day of watching and treating the case should carry with it a full consideration of what might become a serious complication.

Early diagnosis is important, in order that the patient may be put to bed from the moment of suspicion that typhoid fever is developing, and his bowels thoroughly emptied by giving, at the outset of treatment, one-fifth grain of calomel every hour for five doses, to be followed by a bottle of citrate of magnesia taken in divided doses, and possibly by a colon flushing. Abstinence from all foods for a while, or small quantities of a liquid diet, such as peptonized milk or some broth, should be insisted upon. Water, either boiled, distilled or slightly acidulated, may be taken freely. Medicinally, after free action of the bowels, the diluted hydrochloric acid in ten-drop doses every three hours, and if there be much muscular and neuralgic pain, other remedies are indicated. Such treatment in some cases will prove abortive.

If the case is bound to run its course, then intelligent nursing must be had. The nurse, in carrying a very sick typhoid patient to recovery is, in my opinion, entitled to seventy-five per cent of the credit in the successful treatment of the case. Having secured intelligent nursing, the doctor must study his case, and follow for the most part an expectant and symptomatic course of treatment.

Personally, after the first free evacuation of the bowels, I prescribe the diluted hydrochloric acid in ten-drop doses every three hours. The action is a four-fold one.

1. It lessens thirst.

2. It supplies a deficiency in the amount of HCl normally contained in the gastric juice, and thus assists digestion.

3. It is refrigerant in action, and—

4. It lessens auto-infection, because of its intestinal antiseptic action.

If the patient is asthenic, it is well to add three drops of tincture of nux vomica to the HCl already being given. Later on, during the second or third week of the disease, when the pulse wave becomes dicrotic, it is well to give digitalis and whisky. Alcohol undoubtedly is of value in prolonged asthenic cases of typhoid fever. Locally, it is refrigerant in action, and is to be used in connection with cold spongings. Internally in the form of whisky or brandy it is antipyretic, by virtue of capillary dilatation and increased heat radiation. Then it is a decided cardiac stimulant, but most of all it has a distinct food value in saving the tissues by being oxidized into the body. We may safely say that alcohol has food value when the diet is insufficient, because of (1) insufficient supply; (2) faulty digestion; and (3) extraordinary consumption, all three conditions being present in typhoid fever.

The less medication the better in an uncomplicated case. If the course of the disease is marked by chills, I frequently use large doses of quinine. After the initial emptying of the bowels, I have an enema of plain warm water or salt water given either daily or on such days when the bowels have not moved freely.

If diarrhea be present, or the movements exceed four in twenty-four hours, I substitute for the ten drops of dilute hydrochloric five drops of aromatic sulphuric acid. If this fails to check the number of bowel movements, I resort to bismuth and turpentine emulsion.

As a mouth wash, I frequently prescribe one tablespoonful of glycerine and the juice of a lemon added to glassful of water. Sordes should not be allowed to collect and dry on the teeth.

If there is headache, insomnia and restlessness, the ice cap, bromide of sodium and codein seem to be most helpful.

Convalescence from typhoid fever requires time, and should not be hurried, lest a relapse occur. I frequently tell patients that in this disease "the longest way round is the shortest way home." It is undoubtedly the safest way.

The tonic which I find during convalescence to be most acceptable to a typhoid patient is elixir ferri quininæ et strych. phosph., given in drachm doses four times a day.

This is a very imperfect and incomplete resumé of how to treat a typhoid patient. The most important thought which I wish to convey is a warning to physicians to look out for danger signals, *e. g.*, complications which are incident to the disease and apparently arise *per se;* inattention on the part of the nurse; unhygienic surroundings, incorrect feeding, etc. These, if promptly observed, can often be corrected to the great advantage of the patient.

728 Sixteenth Street.

[Written for the MEDICAL BRIEF.]

Some Thoughts Concerning Middle Ear Work.

BY H. L. ALKIRE, M. D.,

Professor of Anatomy and Otology in the Kansas Medical College.
Topeka, Kansas.

The frequent occurrence of diseases of the middle ear and the injurious results which too often follow, should be a sufficient reminder of the importance of otology to cause the conscientious practitioner of general medicine to learn enough about the subject to be able to make a creditable examination of the ear, to give a correct description of the things seen, and to know the value of the usual symptoms. It is not necessary that he be able to make a technically correct diagnosis of every disease affecting the ear, nor does he need a great array of instruments. A light, a head mirror or reflector, a nest of aural specula, a slender forcep, an aural probe, a Politzer bag and a nasal speculum are all that will be required in the hands of one familiar with their uses. In my classes I make it a routine practice to have a student put some obstructing body in one end of a thread spool and with a reflector looking in at the other end tell what he has seen. Many practitioners do not know

how to manage their light sufficiently to obtain a good view of the aural canal. This is what I try to teach my students by the use of the device mentioned. They are next taught how to insert an instrument without pain to the patient; next to study the normal external auditory canal and tympanic membrane until they can give a satisfactory description including the location of all that is to be seen. This should be a routine practice, and the student of the ear should be as familiar with this field and as quick to observe its changes as those of the pulse and temperature, or as palpation and inspection of the abdomen. By such consideration for the ear the general practitioner will be as able to advise as advantageously his aural patients as he does his abdominal or fever cases. By applying the knowledge he may obtain from any of the standard works on the subject he will soon learn to select the cases he desires to treat and to advise those who need more thorough treatment than he is prepared to give.

It is my object to awaken an interest in the study of otology among the general practitioners; I will not deal with any particular disease of the ear because this has been amply done by the authors of the modern text books. If I can show to the readers of this article that otology, like other special fields of medicine and surgery, does in part, belong to the general practitioner, because he is the first to see many of these cases; that much depends upon his ability to treat or to advise promptly, that Nature's laws are the same, the causes the same, the results the same in diseases of the ear as in other organs, I shall be content. Histologically every tissue of the body is represented in the ear, fibrous, muscular, mucous membrane, glandular and integument, supplied with blood vessels, a capillary plexus, lymphatics and nerves. Predisposing and exciting causes of inflammations are, the same as elsewhere, producing the same tissue changes, viz., acceleration of the blood current, dilatation of the vessels and retardation of the blood, increase of intravascular tension and exudation. These give rise to the cardinal symptoms or phenomena of inflammation, viz., heat, redness, pain, swelling, altered function.

To those familiar with the methods of inspecting the ear, these local manifestations are as readily detected in the ear as upon the surface of the body, the results of the local condition depending upon the severity, extent and duration of the inflammation. If the disease is sufficient to destroy the tissue cells, pus formation will be the result. If the inflammation is not active enough to form pus, and of the chronic character commonly known as catarrh, cell proliferation, especially of the fibrous tissue, producing hyperplasia or hypertrophy, will be the result. If in the Eustachian tube, tympanic cavity or tympanic membrane, the result will interfere with the function of the organ. The tissue will, as in other organs, contract, forming bands of scar tissue which, if attached to the ossicles of the ear, so bind them and pull them out of their normal position as to destroy the sense of hearing. This is the terrible termination of the catarrhal otitis medias.

My experience with ear diseases has led me to believe that these patients are as amenable to proper treatment as any other class of patients. The doctor who is not prepared to do aural work should know of some one who is prepared and send these cases to such person instead of discouraging special treatment, and causing the patient to wait until the time for relief has passed. If the purulent cases were sent to an aural surgeon with the same promptness as the appendicitis cases are referred to the abdominal surgeon, there would be fewer deaths from so-called brain disease. Concerning these catarrhal cases, an ounce of prevention is certainly worth a pound of cure. The respiratory tract should be clean. Adenoids, hypertrophied tonsils, deflected septa, hypertrophied turbinates and tumors should receive prompt attention.

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[Written for the MEDICAL BRIEF.]

Fibroid Disease of the Uterus and Its Treatment.

BY ALBAN H. G. DORAN, F. R. C. S.,

Surgeon to the Samaritan Free Hospital, London; Past-President of the Obstetrical Society. London, England.

Fibroid disease of the uterus is important because of its extreme frequency, its nature and its treatment. Its frequency is admitted by all, and its nature is well known, yet we can not say that medical science has settled its treatment. Long before the present era fibroid disease was recognized, whilst even at the present day it is not rarely detected for the first time on the *post-mortem* table, having produced no symptoms. Some women lay no stress on abdominal swellings, not always to their own disadvantage as far as this particular affection is concerned. The frequent inocuity of fibroids must be remembered.

The nature of the disease is not simple, and clinical experience shows that it is much more complicated than was once believed. A uterine fibroid, according to the pathologist, is a fibro-myoma developed in the uterus, essentially an innocent tumor. The pathogenesis is uncertain, but there is reason to suspect that it is related to changes in the muscular crab of arteries, even beyond the limits of the uterus, and cardiac lesions have been noted in relation to fibroids in cases where the tumor could not embarrass the circulation by mechanical or septic agencies. The pathologist, however, declines to guarantee the absolute innocence of a fibro-myoma. Coincidence of uterine carcinoma and sarcoma are known, but where neither of these new growths exist, certain glandular elements, representing vestigial relics, may be found in the substance of the fibro-myoma itself. Such elements would explain carcinomatous degeneration of a fibroid. Sarcoma may certainly develop in a fibro-myoma. I have examined a typical case, and a second where I operated was detected by Dr. Cuthbert Lockyer, one of my colleagues. I must add, however, that these are the only instances of malignant degeneration of a fibro-myoma which have been observed in the Samaritan Free Hospital for the last thirty years. I shall presently speak of the experience of others. Most assuredly the chances of this complication are so small that its possibility must never be brought forward as a plea for operative interference; although in circumstances where it is probable such a fibro should be held decisive.

Fibroid disease, however, means much more than the development of a fibro-myoma in the uterus. It bears certain homologies to innocent tumors clinically malignant in other parts, whilst in some

respects this disease is unique. We all know how it may be divided into three classes, based on the original position of the tumor, subserous, interstitial and submucous; that it may develop in the cervix and invade the broad ligament, and that it is liable to several well-known complications, hemorrhage, necrosis and pressure effects being the most important. These are clinical commonplaces which I need not discuss systematically, although I may have occasion to refer to them presently.

Assuredly we know much about this very common disease, yet I do not think that we can feel confident about treatment. Nevertheless, our experience teaches us that when active measures are indicated hysterectomy is the most satisfactory.

Obstinate menorrhagia is a distinct indication, so is necrosis or necrobiosis, and so is pressure on adjacent structures. The fact that a tumor exists is highly irksome to many women. Hysterectomy has become so safe that it is quite justifiable when the patient is young and the tumor is increasing in size, although other complications may be absent.

Removal of the uterus is, however, in any case, a serious measure; an "extremity," as I have heard it rightly called, rather than a "step" or a "measure." The most obvious suggestion to the practical mind is the removal of the fibro-myoma alone, the uterus being saved. When practicable and fairly safe this operation, myomectomy, should be preferred. I have twice undertaken it in pregnant women where a sessile, subserous fibroid grew from the lower segment of the uterus, threatening to obstruct labor. Labor occurred at term in both cases; the operation was done about the fourth month in each. Myomectomy is not, however, always practicable, and it is difficult and never without danger, as ligatures and sutures have to be applied to the treacherous tissue of the uterine walls. It is most likely to prove a permanent success when the fibroid is solitary. The enucleation of multiple fibroids is too much of a fancy operation, about which experts may boast. All gynecologists are not experts and those who are can not make sure that they have effected a cure, even when they have picked a score of fibro-myomas out of a single uterus. In such a case the tendency to development of this class of new growth is high, and a single nodule left behind might frustrate the aim of the operator.

I admit that it is not easy to trace cases, especially hospital patients, still it is necessary to do so in order to gain an accurate estimate of the value of any operation for the relief of uterine fibroid disease. I have recently published a report of sixty cases, with tables, which will be found in the forty-seventh volume of the "Transactions of the Obstetrical Society of London," and I shall presently speak of some interesting evidence which I gained by following up these sixty cases of subtotal hysterectomy.

The truth remains that the sacrifice of the fibroid uterus is sometimes necessary. Hysterectomy, when properly performed, is highly successful, and the mortality may be very low. On the other hand, just as in myomectomy, we must seek for permanent success. I am forced to admit that, judging from after-histories of cases in my own surgical practice, certain results unpleasant to the patient may follow hysterectomy; results which may not appear until long after the operation. We must, therefore, endeavor to learn how these results may be counteracted. To that end we must first consider certain pertinent questions in relation to the appendages and the endometrium, and, secondly, we must follow up every operation and avoid reporting any one case as satisfactory unless it has fared well for at least two years after the operation.

The Uterine Appendages.—When removing a uterus the management of the fallopian tubes and caries is no trifling matter. They are not rarely the seat of inflammatory disease, and in that case it is not safe to leave them behind. Immediate danger will follow the saving of a pyosalpinx or a suppurating cavity and ligatures passing through inflamed fibroid ligament are prone to become infected. Coincident, cystic disease of the ovaries, of course, indicates that they should be amputated. The chances of bad results in any one case of hysterectomy, where the appendages are taken away entire,

are, after all, slight. In exceptional circumstances, as when the patient is unusually young or distinctly neurotic, it is advisable to leave some ovarian tissue, even when both fallopian tubes require complete removal. This step is rarely impracticable. Granted that the ovaries be healthy they should decidedly be preserved.

The Endometrium.—The mucous membrane of the uterus or endometrium is now known to play an important part in a woman's physiology, though it is not certain what its precise powers and limitations may be. During each menstrual cycle its tissues undergo marked changes, and after impregnation yet more remarkable developments ensue. Menstruation and pregnancy influence the general system. The ovaries have much to do with this influence, no doubt, but the endometrium does more than flood and cast its epithelium. We know how it is modified in pregnancy, but that is not all; for it is now believed, on good grounds, to be a secreting agent. Much light has been thrown on this subject by Mr. C. J. Bond, of Leicester, England. His recent essays, based on experiments performed by Sir Victor Horsley, bearing the title "An Inquiry Into Some Points in Uterine and Ovarian Physiology and Pathology in Rabbits," will be found in the *British Medical Journal* for July 21, 1906. In the rabbit, when not in rut, the endometrium appears to secrete a saline watery fluid, of low specific gravity, containing a large amount of chloride of sodium in solution. There is some antagonism between this endometric function or saline secretion and that portion of the internal secretion of the ovary specially concerned in producing pro-œstrous changes in the endometrium preparatory to the imbedding of fertilized ova. The same portion, as Mr. Bond terms it, of the internal secretion of the ovary, is associated with the growth of corpora lutea. The fact that the corpus luteum is no more evidence of degeneration, but a secreting agent of some importance, has been known for some time.

The endometrium, then, clearly counts for something in the woman's economy. *Lepus* is not *homo*, but both are mammals, and woman, like the rabbit, has ova, graafian follicles and endometrium. We must, therefore, conclude that the endometrium is a secreting agent in each species, and that its functions are balanced somehow with those of the ovary.

If we turn from these deep physiological theories to surgical experience, we find that the latter supports Mr. Bond's views, an important fact in regard to the welfare of women with fibroid. In 1899, Professor Zweifel announced before a learned society that Abel had followed up his series of cases of consecutive subtotal hysterectomies and found that when the body of the uterus was amputated entire, the knife passing below the os internum and if at the same time the ovaries were saved, these organs always atrophied, so that within three years troublesome menopause symptoms set in, just as is often observed after removal of both ovaries. In fact, if all the endometrium be removed the saving of ovaries or ovarian tissue will entail but little benefit. Abel further records a very important experience. In three cases under his observation the knife had passed above the os internum; that is to say, a portion of the endometrium was saved. All the patients continued to menstruate and were free from distressing neuroses.

My own experience supports directly what I may call the Abel-Zweifel theory, and indirectly Bond's theory, that the endometrium is a secreting organ with functions balancing those of the ovary. In twenty-six of the cases of "subtotal" hysterectomy, followed up for over two years, one ovary was saved. In eight the catamenia were regular for a longer or shorter period after operation, the patient remaining free from menopause symptoms. In seven out of the eight I had purposely amputated the fibroid uterus above the level of the os internum. In six other cases I saved both ovaries, in three the catamenia continued regular; in two out of these three I had amputated above the os internum; that is to say, the endometrium was left behind. I must admit that in other cases where some endometrium was spared in this manner the period became irregular, or never reappeared. The endometrium, very probably, had been damaged during the oper-

ation, or yet more probably destroyed during the cicatrization of the uterine stump. In these apparent failures, again, it may be the ovaries and not the endometrium which fail to abort a strong menopause.

Turning to twenty-eight cases where I removed both ovaries, for various reasons not to the point at present, very severe symptoms ensued in no less than ten. Distinct but mild neuroses were noted in nine. In six the menopause was as complete as in the preceding nineteen, but without symptoms. There remain three cases, and in these the period was neither immediate nor complete, although both ovaries had been extirpated; in two, at least, of these three I left some endometrium, amputating above the level of the os internum.

I have said enough to show that the endometrium must be taken into account for physiological reasons. A good series of after-histories of panhysterectomies for fibroid, where the entire endometrium is of necessity sacrificed, would be of interest, but I have not, as yet, come across such a series.

All sides of the question must be taken into account, I admit. We lack evidence about the effects of panhysterectomy, but whilst the preservation of endometriums in "subtotal" hysterectomy is, in my experience, beneficial in the long run, it involves the leaving behind of a big stump, so that convalescence is apt to be retarded. Hence, when operating on an elderly subject, I do not scruple to amputate low down, below the level of the internal os.

Granting that it be advisable to amputate through the cervix, if we ignore the Abel-Sweifel theory, the supporters of panhysterectomy may ask why we should not remove the cervix altogether. The answer is that without doubt that step involves much weakening of the pelvic floor; indeed, I know of two cases where a troublesome hernial pouch developed, protruding at the vulva. Panhysterectomy, again, takes much longer than the subtotal operation. It is difficult and dangerous when the fibro-myoma has invaded the adjacent peritoneal folds, unless the operator be experienced as well as skillful.

The panhysterectomists, however, claim one great point in their favor. The cervix, when saved, may become the seat of malignant degeneration. If this after-result were common it would be a most definite argument in favor of the total removal of the fibroid uterus; if not frequent the surgeon would not be justified in sacrificing the cervix on the chance of its becoming diseased. Much has been written about cancer of the stump, but I find that the evidence that it is frequent is not convincing. Lawers, of Brussels, stated in 1903 that various writers had hunted over long, statistical tables and numerous clinical reports, yet only succeeded in detecting about ten cases. Rishelot made out twenty-five reports of cancerous degeneration of the stump, working up until 1905. We can not, however, rely on many isolated reports, as cancer of the stump at the time of the hysterectomy may be overlooked. The result could not fairly be included in a series of reports of cancerous degeneration after operation. We must not conclude that a formidable looking change in a stump, quite healthy when it was severed from a fibroid uterus, is certainly malignant. Henrotin (*Amer. Jour. Obst.*, July, 1906, page 79) removed a bleeding, granulating stump two years after hysterectomy for diseased appendages. The stump was carefully examined and found to be quite free from malignant elements. This interesting record suggests that inflammatory granulations on stumps may have been mistaken for cancerous tissue. Henrotin's patient was free from any sign of malignant disease three years after the removal of the stump, while after-histories of other cases reported malignant are not always complete. Considering how freely sub-total hysterectomy is practiced, the complication in question is hardly so frequent as to condemn it.

As I have been attached to a special hospital for nearly thirty years, I will take the liberty of adding to these notes a brief review of the evolution of the treatment of uterine fibroid disease during that space of time. I may be excused if I feel occasionally bound to repeat what I have already observed, and to omit all details about the steps of well-known operations in or out of fashion, and about mortality. In respect to the latter point

I have ever found that each operator could show the best results where his experience had been the longest; nevertheless, the older methods have given way to the newer because the patients who survive do better after the more recent operations.

When I joined the Samaritan Free Hospital, in 1877, no satisfactory surgical treatment for uterine fibroid disease was known. The mortality of hysterectomy in the hands of the few experts who attempted it, was very high. Hence it was taught that as a fibroid uterus seldom caused the patient's death it should be left alone. Bleeding fibroids, when the cause of impaired health were rightly held as urgent. A palliative operation was devised by Hegar and Greely, practiced by Lawson Tait and others. We hear but little about it now, although it still has a few advocates. As I have lived to see this procedure come into fashion and then fall into disuse, I will dwell a little upon the subject.

I need hardly say that I am speaking of removal of the ovaries. The aim was ambitious, bleeding was to be stopped, but the growth of the tumors was also to be arrested. As an artificial menopause was expected, the more or less speedy disappearance of the fibro-myoma would follow the arrest of its growth.

Unfortunately, it often happened that none of these aims were obtained. The operation itself was not without danger, extreme nervous shock was frequent when the patient was already anemic from loss of blood. In one case under my observation the patient died on the tenth day without any evidence of sepsis, nor was there a trace of hemorrhage from the uterus or internally from loosened ligatures. I have since removed the uterus in a large number of cases of anemia from fibroid disease, leaving one or both ovaries. Little or no shock ensued. Another danger was thrombosis of pelvic veins, followed by embolism; then slipping of the ligature on the pedicle was not unknown. As the operator desired to remove all ovarian tissue, the pedicle, not hypertrophied as in cases of ovarian cyst, was always short, and sometimes extremely so, hence the frequency of fatal hemorrhages. In some instances the ovary lay flat on the tumor which had opened up the broad ligament. Removal was impossible in most cases of the kind, but bold surgeons sometimes whip-stitched the broad ligament on each side of the ovary, which was gradually cut away, the ligature being drawn firmly so that the edges of the opened-up broad ligament were brought together. The immediate risks of hemorrhage were great. I once saw the late Mr. Knowsley Thornton attempt this maneuver, but the bleeding was uncontrollable, so that he was obliged to remove the uterus by supravaginal amputation, and saved the patient. This operation occurred about 1880, before the steps of the now familiar method had been formulated by experience. The remote dangers of sewing up the broad ligament in the manner just described were considerable. Big hematomas developed, and as large veins were sometimes transfixed deadly results ensued. In consequence of these experiences I never practiced this suturing of the broad ligament.

The next objection was frequent failure in removing both ovaries, owing to their position, or to the opening up of broad ligament to an extreme extent. Most commonly, however, the operator left some ovarian tissue behind. The ovarian ligament is, in many subjects, extremely short, so that extirpation of the entire ovary is impossible, and I found, in some instances, a piece of detached ovarian tissue in the ovarian ligament close to the uterus.

The results of these imperfect operations were remarkable. Without doubt many failed because ovarian tissue was left behind, but I can also testify that in other cases where the ovaries were imperfectly removed the aims of the operator were attained, the tumors diminishing in size and the hemorrhage ceasing. It was laid down as a law that removal of the ovaries was useless when the fibroid lay in the lower segment of the uterus or in the cervix, yet I have had perfect results in more than one case where the tumor involved the cervix. In one patient where I operated the tumor was steadily diminished in size, yet the menorrhagia continued and neuroses developed soon after the operation. At the end of ten

years the patient saw the period three or four times yearly, and suffered from flushings. She was then forty-eight years old. The majority of patients did well for a year or so, then the bleeding returned or the tumor continued to grow. In performing a hysterectomy in a case where oöphorectomy had failed, I detected a small flat button of ovarian tissue lying on the stump of the tube against the corner of the uterus. I have said enough to show that this operation was unsatisfactory.

I will not dwell long on the electrical treatment of fibroids. It has its supporters still. Dr. Thomas Keith maintained that it put a patient subject to uterine fibroid with troublesome symptoms in the position of a patient subject to uterine fibroid without troublesome symptoms. This great surgeon did not profess to be able to reduce the bulk of the tumor to any appreciable extent, although that desirable result occasionally followed his treatment. In my experience electric methods are as uncertain as oöphorectomy; indeed, I suspect that in either, success, when attained, is due to some factor not yet understood. Circulatory disturbances must be taken into account. The electric treatment may keep back the growth of the tumor till the menopause, but I have twice removed a fibroid after prejudicial changes had followed that treatment.

The patient wishes to get rid of her tumor; the methods just mentioned seldom effect that object. Removal is new, satisfactory and safe, so that hysterectomy is the right treatment when a fibroid is otherwise than small and passive. When it is so, we must watch and wait, when otherwise we should operate; above all, where there is hemorrhage or invasion of the cervix or broad ligaments. Delay under these circumstances means almost certain increase in the dangers of operation.

Supravaginal hysterectomy, with extra peritoneal treatment of the stump, was the first radical method to come into vogue. The Serrenœad, or elastic ligature, was applied to the cervix, and the uterus amputated above it. The patient suffered tortures for many hours after the operation, and the cicatrization of the stump and lower part of the wound was slow, hernia often developing. The sloughing process sometimes descended below the level of the constricting agent; then fatal peritonitis usually followed. I have also seen wide-spreading suppuration of the deeper layers of the abdominal parietes with opening up of the abdominal incision anterior to the peritoneum. The extraperitoneal operation was hardly practicable when the tumor invaded the broad ligament to any extent.

The dread of hemorrhage from the uterine vessels and sloughing of the stump deterred surgeons from the intraperitoneal operation until the experience of a few bold operators showed how these perils might be averted. Nearly twenty years ago Sir Frederick Treves said, at a meeting of the Medical Society of London, that the fibroid uterus should be removed by a flap amputation; that is a true definition of subtotal hysterectomy. Howard Kelly also improved the operation by taking the principles of general surgery into account. It is now performed with great success by many operators.

In conclusion, I consider, after some experience in the evolution of the active surgical treatment of uterine fibroid disease, that it is best to watch and wait in all cases where there are no symptoms besides the presence of the tumor, especially when its situation would not be likely to obstruct labor. When certain well-known symptoms (including steady growth) are present myomectomy is indicated when safe as well as clearly practicable. When, as is the rule, the tumor alone can not be safely and conveniently excised, subtotal hysterectomy with certain precautions on which I have dwelt, seems, according to our present knowledge, the most satisfactory way of dealing with the fibroid uterus.

Please find enclosed postal order for one dollar, my annual subscription to the BRIEF. It continues to be the same welcome visitor to my table that it has always been since my first subscription. I find it full of meat and always most palatable.—G. H. SYMMES, M. D., Riverton, Florida.

[Written for the MEDICAL BRIEF.]

The Physiological Actions and Therapeutical Uses of Phosphorus and Some of Its Compounds.

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No. II.

In continuation of my previous article I may point out that the value of phosphorus or of its compounds lies in their power of strengthening the nerve centers when their activity is impaired. Hence iebility of the nervous system is associated with other than purely nervous diseases. A tonic of this kind has a wide field of usefulness, and is applicable, not only in nervous exhaustion and pain, but in many conditions of adynamia. Rabuteau, however, states an opposite view when he says: "I do not hesitate to assert that this poison has never cured anything up to the present time, and I would never prescribe it; it has always been useless." Oliver also remarks that "clinical experience lends little weight to its recommendation for nervous affections," whilst Dujardin-Beaumetz, Thompson, and others have recorded wonderful results from it. The truth probably lies between the two extremes, and we must not forget that some failures may be accounted for by inactive preparations of a drug always difficult to dispense.

Many years ago, Von Lobel, a physician, related his cure by an ethereal solution of the drug from an inveterate cranial neuralgia, which was accompanied with debility and failure of mental and sensory power. He took one-quarter grain every two hours, and was restored to health in a short time, and after only a few doses. This experience was corroborated, and the remedy came into great repute, but was soon found to be dangerous and difficult to manage, and it gradually fell into disuse, no doubt owing to the largeness of the doses. Bradley published a case of neuralgia of the chest-walls, rapidly cured by phosphorus, after failure of all recognized remedies, and later he recorded other successful results. Slade King added testimony to its value in doses of one-thirtieth to one-twentieth grain, and Ashburton Thompson recorded forty consecutive cases either cured or relieved.

Radcliffe employed it with good results, in cardiac neuralgia. It was found useful in cases connected with extreme general debility, whether from over-lactation, hemorrhage, or simple asthenia, in cases due to pregnancy, to cold, and to local irritation, such as carious teeth, and even to rectal cancer. Anstie's experience was not so favorable. I have seen much benefit from it in many of the above cases, also in uterine neuralgia, occurring in sensitive patients, and induced either by protracted lactation, sexual excess or by mental or local causes. The severe pain is apt to come on just before or during the monthly period, and then one-hundredth to one-fiftieth grain should be given three or four times daily; during the interval the smaller dose should be given, and less frequently. For upwards of twenty years I have been accustomed to use phosphorus in intercostal neuralgia, and can speak favorably of its power. I have notes of fifty-six cases wherein the pain quickly subsided under this treatment, and did not, so far as I know, subsequently return. In some instances phosphorus succeeded where arsenic had failed; the dose was one-hundredth to one-fiftieth grain three times daily. In herpes zoster, also, phosphorus has, in some instances, relieved the severe pain. Twitching of the facial muscles, especially about the orbit, often occurs in cases of neuralgia, and I have known it improved by phosphorus.

With regard to the dose in neuralgia and nervous disorders generally, I may say that in my experience the comparatively large doses recommended by Thompson cannot be tolerated for any length of time. They may seem at first to stimulate, or, rather, overstimulate, the nerve-centers, but after a short time they depress in a disastrous manner; whilst the small doses of one three-hundredth to

one-fiftieth grain, continued for a length of time, nourish and strengthen nervous tissue, without any evidence of undue excitement, a gradual alterative action is what is desired.

Gubler found phosphide of zinc removes the sensation of fatigue after hard work, improves the appetite and digestion, and conduce to sleep. He gave a one-half grain dose with an ordinary digestive pill at dinner-time; but such a dose is too large, and is liable to nauseate. When the nervous system is below par, so that slight impressions are too deeply felt, and the nerve-controlling power is impaired, phosphorus has been found to supply what is wanting for a time; it has been said to improve intellectual tone in those subjected to either monotonous brain-work, or to an unusual mental effort. In the convalescence from many acute diseases the hypophosphites are valuable, and the same may be said of conditions of general debility, whether arising from defective hygienic conditions, or from prolonged anxiety or overstrain.

In cases of chronic exhaustion of brain power, or of general nervous exhaustion consequent on chronic functional diseases, small doses continued for some months are advisable, and have been plausibly held to supply to the nerve-tissue a vital element in which it is deficient, and to improve its nutrition, just as Wegner showed that the drug improved the nutrition of bone. Certainly its supply in some form to nerve-tissue is as necessary as that of iron to blood corpuscles.

The value of phosphorus in conditions of extreme exhaustion in advanced disease, is one of the earliest recorded experiences of Kramar, Mentz, Leroy and others. They used it in the muttering delirium and incipient coma of typhus fever, and the profound depression of extensive pneumonia. In every disease where death is imminent from failure of vital force without much structural alteration, phosphorus is indicated. We see this in severe continuous fevers during their last stage and in typhoid fever. It is indicated in the acute exanthemata when the eruption has disappeared suddenly with aggravation of the symptoms. It is recommended in intermittent fevers as often superior to arsenic, and as a good substitute for quinine.

Powers so extensive as these have not been accorded to phosphorus by all writers, but Clay has illustrated its value in collapse, and John Brunton in the adynamia of typhoid fever; rapid improvement taking place under drachm doses of the following solution: Tinct. phosph. æth. (gr. one-third, ad one drachm) three drachms, spt. rectif. one-half ounce, glycerini ad one and one-half ounce. About two grains were taken in the course of two days.

I have frequently prescribed phosphorus in the exhaustion of typhoid, and have seen remarkably good results from it; but, on the other hand, have been often disappointed, and can not but consider it an uncertain remedy. In such cases I place more dependence upon ammoni, camphor and other stimulants of that class, but if they failed, should have recourse to phosphorus.

In exhaustion of the generative system and impotence phosphorus has long had a reputation, and was much valued by early authorities, but modern experience has shown its power to be more limited than was supposed. If the special exhaustion referred to be only part of a generally enfeebled state, it will improve as the general tone and vigor improves, but this system is not stimulated apart from the others; indeed, if it were so, this might be a serious drawback to its ordinary use. I may say, however, that in some of my own cases an irritable, weakly condition of the sexual organs, traceable to previous early abuses or subsequent excesses, has been much benefited by continued doses of one two-hundredth to one one-hundredth grain thrice daily.

Patients with scanty, watery and irregular catamenia, sometimes suffer, about the time of the periods, from sick headache, and when this is the case a continued course of phosphorus increases the quantity and improves the quality and regularity of the menses, while the headaches frequently disappear. When the discharge is not only watery, but too profuse in character, and somewhat delayed beyond the natural time, phosphorus is of considerable use, as it checks the overflow, relieves the backache, improves the

mental depression, removes the nausea and vomiting so frequently attendant, and strengthens the general condition. It is also useful in profuse menstruation attended with excessive sexual excitement. The dose should rarely exceed one one-hundredth of a grain every two to four hours during the menstrual period, and morning and night during the interval. Bromides usually act better.

In hysteria nervous power is impaired, the emotions not being under control; neuralgia is often concomitant. It is a condition in which we should expect phosphorus to be useful, and instances of its value are on record. The cases benefited by it have been acute or chronic, dependent on sudden shock, or gradually coming on with increasing weakness and despondency; in either form a period of debility is liable to be followed by convulsive attacks. I do not undervalue moral and hygienic treatment, but amongst medicines, phosphorus in doses of one one-hundredth to one-twentieth grain has proved efficient in my hands. When hysterical attacks are connected with delayed or suppressed menses, pain in the iliac and lumbar regions, neurotic vomiting, palpitation and general excitement alternating with depression, I have found this remedy help to regulate the periods and cure the hysterical symptoms.

In cases of fracture, resection and transplanting of periosteum, Wegner found that small continued doses of phosphorus stimulated the growth of new bone, especially in young animals; also that ossification in the fetus was promoted by giving phosphorus to the mother.

I have seen good results from phosphorus; in caries of bone and in cases of abscess connected with necrosed bone it lessens suppuration and hastens the separation of the sequestrum; given during pregnancy it relieves the dental caries and neuralgia often incidental to that state, and I have given the hypophosphites successfully in such cases. It may be presumed that phosphorus and such preparations of it, would also improve the nutrition of the fetus in weakly subjects, and I think they might often be used with advantage in chronic rachitis. Kassowitz has reported an exceptionally favorable experience in rickets, founded on the treatment of five hundred cases. Recently observations on hens and rabbits taking phosphorus, have shown normal spongy bone replaced by hard tissue. It may be a remedy for osteoporosis, but as the lesions in rachitis are different, it can not be considered equally a direct adjuvant in that disorder. In osteomalacia phosphorus has seemed of service. It is usually given with cod liver oil, and the good effect both in this disease and in rickets has been attributed to the oil. A case, however, has been recorded in which a relapse occurred when the oil was given without the phosphorus. Its administration should be begun early, and be continued for months.

In leucocythemia, pernicious anemia and lymphadenoma, phosphorus was advised some years ago, and has been used with success. A boy with essential anemia, prostration, diarrhea, yellow, waxy face, etc., recovered under phosphorus, and remained well for some time. In a case of leucocythemia, treated in the same manner, inflammation of the spleen was said to be produced. In a woman with lymphadenoma, having symmetrical enlargement of cervical glands, anemia and dyspnea, who had been steadily getting worse for some time, recovery took place after taking phosphorus. Some support was given to these observations by a case, under Wilson Fox, of leukemia splenica in a man, aged thirty-seven, for when extremely enfeebled he began to take one-fiftieth to one-thirtieth grain doses, and after three months' treatment greatly improved; he died, however, in the following year. Verrall reported a marked case of subsidence of splenic enlargement and improvement in blood-condition.

The action of phosphorus in phthisis can only be considered palliative, but it moderates some troublesome symptoms. I have used it in various doses in upwards of eight hundred cases, of which I have a record, and am satisfied that it does not cure advanced tuberculosis, although it appears in many cases to arrest its progress, at least for a time; also to improve the condition of the throat and voice, and to relieve the dry, harassing cough, the pain after food, and even the colloquative diarrhea and night-sweats.

It has also removed pleuritic stitches, and seemed to strengthen the general condition; on the other hand, its use is not free from danger, and requires caution, since it may induce obstinate hemoptysis. These remarks apply also to the hypophosphites.

It may be convenient in this place to discuss the modes of administration of phosphorus and the relative value of its salts and compounds, especially as much valuable work has recently been published on the subject. In the first place it may be well to note that although phosphorus occurs both in the yellow and red varieties, the latter is less volatile and less soluble than the former. Red phosphorus, owing to the difficulty of absorption, is practically non-toxic when taken by the mouth. The two forms are, however, equally toxic when injected under the skin. It must also be remembered that phosphorus exists in forms which may be termed inorganic and organic. Respecting the difference to their mode of action, Prof. Tunnicliffe, of London, in a well-considered article, says:

"The inorganic phosphorus compounds of which the official calcium phosphate may serve as a type, contain their phosphorus directly attached to a metallic ion. The phosphoric acid in these compounds can be demonstrated chemically by means of molybdic acid. Substances of this class have long been given as medicinal agents, and have earned upon clinical grounds a reputation of exerting a nervine tonic action and of acting as adjuvants to growth, especially bone, which latter substance consists largely of calcium phosphate.

"The other form in which we meet with phosphorus dietetically and therapeutically is in so-called organic combination. These organic compounds of phosphorus are, from a chemical standpoint, in many instances very complex, and may be regarded as being built up on the type of phosphoric acid, by the replacement of its hydrogen atoms by complex organic radicles, which latter have also in certain instances their hydrogen atoms likewise replaced by other organic radicles. The most notable instance of such a substance is lecithin, which may be regarded as derived from phosphoric acid and glycerine, first of all by the esterification of one of the hydroxyl groups of the latter and the subsequent replacement of the two remaining hydroxyls of the glycerine by two stearyl radicles, and the combination of the resulting di-stearo-glycero-phosphoric acid with the base cholin. This substance lecithin and its congeners cephaline and protagon form essential constituents of the nervous system, and are so immediately concerned in its functional activity as to give rise to the dictum that without phosphorus there can be no thought.

"To pass from the nervous system to the other tissue cells we find organic phosphorus compounds present as nucleins and nucleo-albumins, especially in such organs as the muscles, the thymus gland, the thyroid gland, the liver, the kidneys, and the spleen. The phosphoric acid test as it exists in these organic combinations cannot be demonstrated by the molybdic acid reaction, and must, moreover, be regarded as being directly attached not to a metallic ion but to an organic radicle."

The hypophosphites are and have been for many years extensively employed, and are frequently prescribed in the treatment of phthisis and other forms of tuberculous disease. Much difference of opinion exists as to their value. Some authorities regard them almost as a specific, whilst others maintain that they are simply tonics and have no power of arresting the progress of the disease. The question has never been worked out from the point of view of modern bacteriology. The probability is that they improve the resistive power of the tissues, and render them a less suitable nidus for the growth of the bacillus. They have been recommended in the treatment of pneumonia, but there is no evidence to show that they shorten the progress of the disease or hasten the crisis of the acute lobar form. Such a result would be phenomenal, and could not be reasonably anticipated.

In the convalescence from many acute diseases they are undoubtedly valuable, and the same may be said of many conditions of general debility whether arising from defective hygienic surroundings, or from prolonged anxiety or overstrain.

The probability is that the hypophosphites represent an easily assimilable form of phosphorus and nothing more. On theoretical grounds it might reasonably be supposed that the calcium was the better salt, and that it had certain advantages over the sodium compound, for lime belongs to the digitalis group, and has many of the actions of that valuable drug, improving the tone of the heart and indirectly the general nutrition of the tissues. Children fed on the hypophosphites do well, and often gain rapidly in flesh.

The glycerophosphates are now extensively employed as therapeutic agents, and appear to have a distinct sphere of usefulness. The glycerophosphoric acid itself is a colorless, odorless fluid, having an acid taste, and a specific gravity of 1.3. It forms salts of which the glycerophosphate of lime is probably the most useful and the most frequently prescribed. It is a white crystalline powder, freely soluble in cold water, and soluble with difficulty in hot water. The ordinary dose for administration by mouth is from three to ten grains, or from two to four grains hypodermically. Amongst other salts may be mentioned the glycerophosphate of iron, which is met with either as a whitish powder or in scales, the glycerophosphate of sodium, which is a translucent, straw-colored pasty mass, and the glycerophosphates of potassium, lithium, magnesium, manganese and quinine. A useful preparation of the glycerophosphates is made by dissolving two parts each of glycerophosphate of sodium and lime, and one part of glycerophosphate of iron in two hundred and fifty parts of aromatic syrup. The dose is from two to four drachms.

Discovered in the yolk of egg in 1846, glycerophosphates were but little known before 1893, when Robin drew attention to the large amount of partly oxidized phosphorus in the form of glycerophosphoric acid eliminated in the urine of some neurasthenic patients; having obtained and administered compounds of this acid, he concluded that they increased the general metabolism of both organic and inorganic matter, principally the latter, as shown by augmented excretion of urea, chlorides and sulphates, though not of uric acid nor of phosphates; at the same time they favored the current assimilation of the albuminoid matters, and moderated denutrition of the nervous system and aided its reconstitution by remaining in the system. He indicated a wide range for their curative power, *e. g.*, in chronic gout, diabetes, phthisis, Bright's disease, and even Addison's disease with nutritive decay, meaning rather the improvement of vital power than direct antagonism of such maladies; similarly in any breakdown of the nervous system, as in the aged, or after acute illness or lowering treatment; in chlorosis and rachitis; in chronic dyspepsia, especially with lessened acidity (after appropriate treatment); in neuralgia, ataxy, sciatica, spermatorrhea and neurasthenia, generally when marked by depression, headache and impaired power for mental and muscular work; whilst he notes that insomnia, palpitation and phenomena of excitement may be aggravated (this is not my experience), and that the medication is not suitable in conditions of azoturia, or when organic oxidations are above the normal, or in mental disease or general paralysis. He speaks also of improvement in cases of muscular atrophy of various causation and of benefit in diphtheritic paralysis.

Harris, in a communication to the Manchester Therapeutical Society, points out that there seems a probability on *a priori* grounds that the glycerophosphates act as foods to the nervous system. They favor assimilation and metabolism, and are especially useful in neurasthenia and Addison's disease. In many cases of the former condition they fail, but some cases are benefited by them. Very few cases of true hysteria are favorably influenced. The best results are obtained in the treatment of nervous exhaustion from overwork, in which the glycerophosphates have really a good effect. Harris used only the sodium salt, and not the other compounds. He gave from fifteen to forty minims three times a day of a fifty per cent solution.

Prof. R. B. Wild of Manchester uses the glycerophosphate of sodium for weakness following influenza and for nervous exhaustion from overwork, and Dreschfield finds it useful in many functional diseases.

[Written for the MEDICAL BRIEF.]

Hysteria and Its Manifestations.

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The title "Hysteria" is admittedly a bad one. It calls up visions of its derivation; it suggests a connection with the womb and uterine functions which is now known and fully recognized to be non-existent, and, above all, it implies and conveys the idea of something fraudulent, or of the nature of shamming or imposture, which is absolutely unjust to the victim of the disease. And yet it is by no means easy to find an adequate and efficient substitute. Of late "Neuro-mimesis" has loomed largely in the professional mind, and has even become a popular word in the mouths of the laity. But it, too, has its objections; it is vague and uncertain in its applications, and, above all, it lays too much stress on the resemblance between the symptoms of the complaint and those of other diseases. "Functional" has always been a term which affords an easy way out of a difficulty, and in its vagueness of application may fairly rank with the indefinite "specific." We apply the term functional to diseases which as yet have no recognized pathology or morbid anatomy. The group is a very wide one, and, little by little, as the study of disease advances, is becoming more limited in its application. Many diseases and groups of diseases not only of the nervous system, but of all parts of the body, which a decade ago were regarded as functional, have now been definitely traced to their origin, whether it be bacteriological or chemical. This process of elimination will continue until, in the fullness of time, the word will cease to exist, or will be used only as a cloak for our ignorance.

How, then, are we to define the group of symptoms which calls for our attention? Definitions are notoriously unsatisfactory and can be adopted only tentatively, but were I called on to provide a provisional standard for this disease, I should say that it was a state in which ideas control the body and mind and produce morbid changes in their functions.

Causation.—With regard to the etiology or causation of the disease, there are usually many factors at work, some predisposing, others exciting. Amongst the former, much stress must be laid on the defective education and upbringing of English girls twenty-five or thirty years ago. They were allowed but little freedom of thought or action, and were kept closely tied to their mother's apron string. The mother was a well-meaning person, but she had but little initiative, and was hidebound by convention. She was orthodox, but her orthodoxy was that of *her* mother, supplemented by the teaching of the village parson. This degeneracy reached its highest point in the Cathedral towns of Great Britain. A quarter of a century has marked a great change in this respect, and has been concurrent with an increased robustness of health of our girls. They are stronger not only physically but mentally and morally. The advent of bicycling and motoring, and especially of greater facilities for traveling in foreign countries, has had much to do with this, chiefly by permitting a more vigorous and intimate social intercourse between young men and women. The girl of to-day dictates the policy of her mother, and with a healthier out-door existence there are fewer of the factors which tend to make for hysteria and its attendant evils. It is comparatively rare nowadays to meet with a neurotic English girl, and the most typical and exaggerated form of the disease must be sought amongst the Latin races. Amongst the exciting causes of hysteria must be reckoned life's failures. A girl breaks off her engagement from some religious motive and spends the rest of her life in misery and discontent. Sometimes the breaking strain is caused by other factors; they may take the form of family opposition, or possibly the man proves unworthy, or may have the misfortune at a critical moment to contract syphilis or gonorrhea. At all events, for some reason, or possibly from a combination of circumstances, the physiological contact is broken, and disaster for one or both is the inevitable consequence. These facts are not published to the world; they are known only in the family circle, or are communicated in strict confidence to

the physician, but they are the cause of many a serious departure from health and the production of that protean group of symptoms to which for want of a better name we apply the term hysteria. Sometimes, especially in married life, the condition is dependent on absence of affinity. This is a condition which defies definition, but is well recognized, and is always an important factor which has to be considered. There may, it is true, be some ovarian or uterine disorder, but too frequently it is not the cause, but the expression of the condition, which leads to ill-health and eventuates in chronic invalidism.

Symptoms.—The symptoms of the disease are paroxysmal or interparoxysmal, or both, and it may be stated once for all that the former, amongst intellectual and refined women, are rare. A woman may suffer much, and may yet exert such an amount of mental control as to render impossible any public manifestation of the condition. She has herself well in hand, and, although her sufferings may be chronically acute, she bears her lot in silence and gives no sign. The tension may, however, in time become so great that life is rendered unbearable, and if relief is not afforded, disaster must ensue. This is true not only of women but of men, especially those who from reticence or diffidence continue the struggle alone and unaided. The breakdown usually comes suddenly, and may be physical or mental, or both.

Reverting to the more obvious and tangible manifestations or symptoms of the disease, we find that they may be transitory or slight, or they may approximate closely to those of locomotor ataxia or general paralysis of the insane. In women the symptoms more usually attract early attention, whilst in men they are longer masked by business or professional relationships and responsibilities, and the crash comes suddenly and unexpectedly. Amongst the premonitory and less serious indications are the anesthesias. They are common, but are frequently detected only on examination. All forms of sensation may for a time be abolished—touch, pain and the recognition of temperature. It may be confined to the skin or may involve the deeper parts. Certain modes of distribution of this anesthesia are characteristic; for example, *hemianesthesia* of the face, trunk or limbs, especially if confined to the left side. The anesthesia may stop abruptly at some particular spot or segment, giving rise to the "glove," "sleeve" or "stocking" varieties. These terms are conventional, and vary with vagaries of fashion.

Another common symptom is *hyperesthesia*, which may be a mere tenderness or over-sensitiveness of the skin, or may amount to actual pain. Sometimes the pain or tenderness is confined to one or two particular points or spots, of which the most familiar are the "clavus," marking the point of exit of the supra-orbital nerve and the tender spots over the spinal vertebræ. Sometimes the pain is situated chiefly in one or other of the breasts in the neighborhood of the nipple, or it may be ovarian or uterine.

Amongst the motor phenomena various forms of pseudo-paralysis are by no means uncommon, and the patient may on a cursory examination appear to be suffering from hemiplegia or paraplegia. The symptom-picture, however, is not accurate, and it is usually incomplete, in the sense that the patient is a poor anatomist and has no knowledge of the grouping of muscles, or of their mutual relationship. Moreover, these paralyses come and go with lightning-like rapidity, often as the result of some sudden mental disturbance or in response to a mere suggestion. Hysterical, or neuromimetic, affections of the joints are curious phenomena which may simulate arthritis, synovitis or other forms of inflammation. There is, however, no redness or heat of the skin, and, although the patient may complain of intense pain, especially on any attempt at movement, it is obviously of the neuralgic type. Even when there are contractions the ligaments and tendons are not really involved, and under the influence of a general anesthetic immediate and complete relaxation follows. Instead of paralysis and fixation, there may be involuntary movements of sorts which may assume a rhythmical character. For example, there is a spasmodic torticollis, in which at more or less regular intervals, the head, by the contraction of the neck muscles, is jerked violently

to one side. Sometimes the spasm assumes the form of "salutation," so that the patient keeps on steadily bowing, as if suffering from an excess of politeness. A still more pronounced form, one often met with in connection with pilgrimages to various shrines, is the "saltatory" spasm, in which the sufferer progresses by leaps and bounds. This variety often assumes an epidemic form, and crowds of people may be seen even at the present day acting in this strange and unaccountable manner. Arrived after many weeks at their destination, a bath in the spring, or touching a holy relic, at once restores them to health and vigor, and they return to their respective homes to spread the reputation of their favorite Saint.

Sometimes the special senses are more particularly affected, and there are visual or auditory phenomena. Hysterical affections of speech are common, and the patient may suffer from mutism, or from the more distressing form, excessive verbosity. The ease with which hysterical aphonia can be cured instantly and completely by the application of electricity to the vocal cords, is always a source of wonder to those not familiar with this particular phase of the disease.

It would be easy to go on enumerating these symptoms *ad libitum*, but it would serve no useful purpose. We have in one and the same person from time to time imitations of every disease known to medical science. At one moment there is hysterical fever, with threatenings of hyperpyrexia, and the temperature suddenly runs up to 110° F.; then there is difficulty in swallowing, and the patient is supposed to have cancer of the stomach, or œsophagus, until this suddenly gives rise to a series of apparently inexplicable mental phenomena. And so the game goes on until every one is tired of it and of the miserable sufferer. She is the autocrat of the family and of her little social circle, and every one and everything must give way to her whims and cranks. Ill-natured people say that she would be all the better for a ducking in the nearest horse-pond, but the surgeon, in his wisdom, substitutes for this drastic measure the modern, safe, pleasant and fashionable operation for appendicitis. It is more costly, it is true, than the horse-pond, but, on the other hand, it is orthodox, if performed by a sufficiently eminent practitioner.

Diagnosis.—With regard to the diagnosis of cases of neuro-mimesis, it must be admitted that, although sometimes perfectly simple, at others it presents very great difficulty. It may be as well to promise that in the majority of cases the classical symptoms, as handed down in our text-books from generation to generation of students and practitioners, are absent. We look in vain for the hysterical convulsions, the sense of suffocation with abdominal flatulence, the nervous urinary secretion and those other associated signs of nervous disorder which are not imitations of other diseases, and are not themselves imitated. The chief means of diagnosis are a consideration (1) of the general predisposing condition of the patient, (2) of the exciting causes by which nervous mimicry are likely to be evolved, and (3) of the local signs and manifestations. One of the most frequent conditions in those in whom these mimicries occur is a singular readiness to be painfully fatigued by slight exertion. Little attention should be paid to *subjective* symptoms, and reliance must be placed entirely on those which are *objective*. If this rule is steadily observed there will be less liability to error, but even those who are most skilled and most experienced make mistakes. It is bad to mistake hysteria for organic disease, but it is infinitely worse to mistake organic disease for hysteria. The point always to bear in mind is that the two conditions may co-exist and may overlap. There may be tuberculous or other serious disease of a joint in a person who is notoriously emotional or hysterical.

Treatment.—There are many drugs and combinations of drugs recommended, but whether they do any good is quite another matter. Valerian, valerianate of zinc, sumbul, musk, asafetida galbanum are names which naturally fall from our lips. It is easy to prescribe them, but whether they are efficacious, or even likely to do good, is quite another matter. Bromides in full doses are undoubtedly useful. Massage, electricity in its various forms, may or may not do good, but

their effect is not unconnected with the influence on the patient's mind and the feeling of expectation which they excite. If there is anemia, iron is naturally indicated, just as, and with an equal amount of truth, purgatives do good in constipation and a judicious regulation of the dietary prevents a recurrence of the condition. The real and only efficacious treatment of these cases is by endeavoring to effect an improvement in the social and moral surroundings of the patient. The great thing is to find some object in life, something that will occupy the thoughts of the victim and take her out of herself. A very little thing will often do it, but that little thing will have to be found, and it is not always an easy problem to solve. The patient often finds it for herself, and may become wildly enthusiastic over something which is harmful and beneath contempt. Our object must be to guide her and to lead her in a direction that will be least harmful to herself, to her friends and relatives and to the community at large. The responsibility is great, but it is one which every physician has to face.

[Written for the MEDICAL BRIEF.]

Treatment of Extensive Laceration of the Extremities by a Method of Constant Irrigation.

BY G. A. HENDON, M. D.,

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A brief verbal report of the cases illustrating this article with the exhibition of X-ray negatives, was made at the Academy of Medicine in October last, and the discussion which it unexpectedly provoked, has furnished the impetus for this article.

The original idea which forms the basic principle of the plan of treatment herein exploited, was obtained by the writer from the published works of Prof. Nicholas Senn. The details of the treatment were worked out upon the presumption that a fracture will unite under any circumstances, so long as the integrity of the adjacent soft parts is preserved or restored. That the menacing peril in extensive laceration is traumatic gangrene, and not failure of osseous union or deformity. While I am perfectly aware that my series of cases, only two in number, is not sufficient weight of evidence to establish absolutely the validity of my claim, yet the main points in the cases presented are strong enough to entitle the method of constant irrigation in this class of injuries to at least respectful consideration.

The first case was one of almost incredible mangling of the leg from tibial tubercle to malleolus.

Case 1.—H. Y., colored, nine years old. Was run over by a transfer truck loaded with hogsheads of tobacco, the wheel evidently passing over the leg in a longitudinal direction, crushing the tiba almost in its entire lower half, and stamping out about one-half inch of the fibula. The periosteum was stripped off the bone halfway up. The anterior tibial group of muscles were torn loose from the attachment to the tibial shaft. Also the peroneal group was detached from the fibula, and pulsation was absent in the posttibial artery, but present in the dorsalis pedis. The muscles and fascia presented the appearance of a pulpified mass into which was ground the filth and dirt of the city street.

The treatment here instituted was to anesthetize the child, remove all dead and devitalized tissue with knife and scissors, ligate bleeding vessels, and cleanse as thoroughly as possible with irrigation, scrubbing with gauze, and by sterile water poured from a pitcher. The child was put to bed without a dressing on the wound. The limb was laid on a Kelly pad and irrigation with sat. sol. of aluminum acetate established. This end was achieved by suspending a reservoir about two and one-half feet above the patient's level, and conveying the irrigating fluid through a tube to within two or three inches of the wound surface, from whence it was allowed to drop at the rate of twelve to fifteen per minute. The wound surface was covered by a single layer of sterile gauze, which acted as a protective and a buffer to break the force of the drop. This method was maintained about four weeks, constantly night and day; the progress of the case was in every way satisfactory. The dead tissue all

sloughed away, leaving a healthy granulating surface, which eventually became covered with epidermis without the aid of skin graft, and the function of the limb was fully restored. I hereby acknowledge my indebtedness to Drs. Garland and Percifull for their tireless energy and hearty co-operation with which they worked out the details of treatment in this, as well as in the second case reported.

Case 2.—A man aged fifty-two years was struck by a locomotive while driving across a railroad track. He was hurled some distance, alighting with all his weight, one hundred and eighty pounds, on his right arm and wrist. The resultant injury was an extensive compound comminuted fracture of both radius and ulna. The radius was stripped of muscular attachment and periosteum and exposed at least one-third of its extent. The ulna was not so severely injured. Pulsation was absent in the radial artery. The thumb was almost disarticulated from the hand.

The treatment instituted was almost the same as in the first case. Recovery was uncomplicated, so far as restitution of the bone and soft parts was concerned. Motion at the wrist, flexion and extension were restored, as well as pronation and supination. Flexion of the fingers, however, is not complete, and, so far the patient has not regained the power of grasping or making a fist. His progress in that direction, though, is satisfactory, and motion is gradually increasing.

Highland and Baxter Avenues.

[Written for the MEDICAL BRIEF.]

Treatment of Hypertrophic Nasal Catarrh.

BY LAFAYETTE PAGE, M. D.,

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For no disease to which flesh is heir have so many remedies been suggested as for the relief of nasal catarrh. Innumerable local and constitutional remedies have been mentioned, and more or less strongly advocated by one authority or another, but their very number proclaims their uselessness in a majority of cases. While many remedial agents have proved invaluable in checking acute inflammations, and modifying chronic morbid processes, yet no specific for this disease has been discovered, and there probably never will be. The nose and throat have always been a field of experiment for all sorts of medicinal agents, many of them of the most irritating and injurious kinds. Efforts to cure this disease have not been confined alone to drugs and nostrums, but most radical surgical procedures have been used and often without regard to function or purpose of these nasal structures. Happily for the large percentage of humanity who suffer from this disease, more careful attention is being given to the study of the normal functions, as well as the perverted ones, of the nasal passages, and consequently both the medical and surgical treatment of this affection is becoming more conservative. Many forms of this disease can be treated successfully by the general practitioner, without risk of injury to the patient, by conservative measures. Patience and practice with the nasal speculum and rhinoscopic mirror will enable him to recognize the normal and diseased conditions of the nasal structures. A good light from a laryngeal reflector, a nasal speculum, probes, mirrors and the palate retractor are sufficient equipment to make the ordinary examination.

Each case presents an individual study in itself. The catarrhal disease will be found presenting itself in every form and stage from simple persistent hyperemia of the mucous membrane, to that form where all the special structures and functions of the nose are destroyed. All the different manifestations of this disease are usually classified under the two forms, atrophic or dry catarrh, and hypertrophic, which is far more common. In the majority of cases which present themselves for treatment, we find upon dilating and illuminating the nostril one or both sides obstructed. In the lower part the inferior turbinate body will be observed standing out from the external wall, according to its degree of turgescence. We can see to a greater or less distance along the inferior meatus, but frequently the swelling is so great that this channel is completely blocked. Although the turgidity is

scarcely to be considered pathological, it requires definite treatment as a nasal obstruction. The tendency of such a condition is usually toward hyperplastic rhinitis, with all its accompanying evil results. In the incipient stages of the disease, the soothing alkaline antiseptic sprays, followed by the oil sprays, combined with camphor, menthol and oil thyme, or oil eucalyptus, are of distinct value. Since we rarely find the disease in its earliest stages, we always find a greater or less degree of obstruction from hypertrophic changes, pressure irritation, and consequent bad drainage to deal with.

For removing hypertrophic masses, the electro-cautery and the wire snare are in common use. There are two important ends to be obtained in the use of the cautery, the reduction of the superficial layers of the mucous membrane by a slough, and the formation of inflammatory adhesions to the periosteum. Perhaps the cautery accomplishes even more than this in destroying some of the smaller blood vessels, thus diminishing the nutrition of the parts.

Before the operation is commenced the parts should be thoroughly cocainized with a ten per cent solution of cocaine. This contracts the tissues and facilitates the operation. Then the cautery point, heated to a cherry red, should be drawn along the inferior margin of the turbinate body, making a linear incision to a depth to be governed by the thickness of the hypertrophy. It is often necessary to repeat this operation several times before a case of long standing can be thoroughly reduced. The subsequent treatment consists in thorough cleansing with alkaline antiseptic sprays and soothing with oils. The same results may be accomplished with the application of trichloracetic acid or chromic acid. For the inexperienced operator these are decidedly preferable to the electro-cautery, and it is not quite certain that they are not always to be preferred to the more radical measures. A few crystals of one of these acids my be fused on an ordinary probe and a line drawn with it along the most dependent portion of the turgescent or hypertrophied tissue, causing a slough without producing any general sepsis, as sometimes follows the application of the electro-cautery. These acids are very effective in reducing thickness about the middle turbinate, and relieving the pressure irritation in that region, which is so often productive of headaches and many other unpleasant symptoms.

In any region of the nose where we find contact of the opposing surfaces and pressure irritation, it should be relieved either with the acids, cautery, snare, saw or forceps. The ingenuity and judgment of the operator should suggest the instrument best suited to remove the obstruction. The wire snare is probably the best means for removing the large masses of hypertrophy which are so often found on the posterior ends of the turbinate bodies. The primary objects of the treatment, in short, should be the destruction of nasal neoplasms wherever occurring, the correction of deformed septums as nearly as possible, and the removal of all pressure obstructing the free circulation and drainage.

By the judicious use of the means above referred to, excellent results may be attained in the treatment of the disease. It should be kept in mind, as some one has said, that there is an important function in all the nasal structures, notwithstanding the fact that it can be removed easily and without fatal consequences, and it should be our object to cure the disease in question with physiological facts kept well in view.

Room 30-32 Willoughby Building.

[Written for the MEDICAL BRIEF.]

A Few Thoughts on Tuberculosis, with Especial Reference to Heredity and Infection.

BY JAMES B. BROWN, M. D.,

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Scarcely a score of years ago, tuberculosis was generally considered an hereditary disease. It was early in the seventies when pathological investigations were made which increased our knowledge regarding this theory. Later microscopical improvements, with the development of the science of bacteriology, gave us more light upon this subject. Previous to these researches, perhaps the only cause given

as to its heredity was the fact that entire families succumbed to its ravages.

To-day our knowledge pertaining to the inherent cause of tuberculosis is based upon facts, not theories. Although the theory of heredity is to a certain extent true, it proves the exception rather than the rule. We now know that tuberculosis, as a rule, is not inherited direct, *i. e.*, the germ, but children of phthisic ancestry do inherit a predisposition or susceptibility.

Tuberculosis was known to the ancients. Hippocrates regarded it as a suppurative process of the lungs. Very little, if anything further was known of the disease until anatomy was more closely studied, and *post-mortem* examinations became frequent.

Morton (1689) claimed the tubercle was a necessary antecedent to the ulcerative process of the lungs. Magnetus (1700) was the first to discover miliary tuberculosis. The next most important discovery was made by Laennec (1781-1826), who claimed that phthisis and tuberculosis were identical, and that a tubercule was a neoplasm. He was the first to trace the pathological changes of the tubercle. He excluded inflammation as being a cause of phthisis. Other pathologists have given us valuable information in regard to the tissue changes that occur as the result of the tubercle bacilli.

Villemin (1865) while studying this disease made experiments pertaining to its infectiousness. He was the first to inoculate rabbits with matter taken from yellow and gray tubercles of phthisic subjects. By sub-cutaneous injections behind the ear he found that he regularly developed tubercles in the lungs. These experiments were recognized as unreliable by others of equal prominence, until the results of Rindfleisch, Conehim and Baumgarten were published. They found that tuberculosis could be produced by inoculation upon suitable animals. The infectiousness being settled, investigations were then made as to the nature of the virus that produced it, but nothing definite was attained until Koch, after numerous failures, discovered the rod-shaped bacillus by staining with the aniline dyes. He regularly found these bacilli in tuberculous glands, miliary tubercles, tuberculous abscesses, tuberculosis of the joints, phthisis sputum, lupus, and tuberculosis of cattle. These bacilli are always found in these conditions, and never in any other disease or in healthy tissue.

Thus the cause of tuberculosis is attributed to the tubercle bacillus, based upon thousands of scientific experiments.

The points to be emphasized in this paper are: Is tuberculosis hereditary? Is it infectious? Or is it both hereditary and infectious? From the data at my command, I have found but one case on record where the tubercle bacilli were found in the sperma. Animal experiments in regard to the germinative transmission through the sperma have proven negative, with a possible exception of Freidman's researches. We are justified in claiming, then, that the transmission of tuberculosis through the male rarely if ever occurs.

Placental infection, however, gives more positive results.

Charrin, in 1873, reported a seven and one-half months' fetus of a consumptive who died the third day after delivery, finding widely disseminated tuberculosis of the abdominal organs, with a few tubercles of the lungs.

Berti noticed in a child of a consumptive, which died on the ninth day after birth, two small cavities with cheesy degeneration in the right lower lobe.

Merkel, in 1875, observed a mother with cavities and miliary tuberculosis of the lung, who died two days after giving birth to a child with a tumor of the hard palate the size of a pea, which underwent cheesy degeneration. The tumor was accompanied by caseous cervical glands and cheesy focus in the left hip. The child died.

Jacobi published, in 1892, a case observed in 1861. The seven months' fetus of a tubercular mother had tubercles of the liver, spleen, pleura, and peritoneum.

Sabourand, in the liver and spleen of a child that died eleven days after birth (the mother dying two months after labor), found numerous tubercles two millimeters in diameter, and containing tubercle bacilli.

In experimenting upon animals, Klepp discovered twenty-six cases of tubercu-

losis among four thousand and eighty-six unsuckled calves.

Other pathologists who, among more than three hundred and forty fetuses taken from animals suffering with advanced tuberculosis, twice obtained positive proof of the transmission of this disease. From these experiments, taken from both animals and man, congenital tuberculosis is possible, though rare. On the other hand, Virchow is quoted as making the statement that he never saw a genuine case of congenital tuberculosis.

Prof. Carot says: "If we collect all the facts which speak for a placental transmission, we have in all about twenty cases submitted to us in man. Certain of these cases indicate with certainty the possibility of a placental transmission. A considerable number of others, however, are of doubtful significance, so that they can not be accepted as unqualified evidence." Quoting the author further, he says: "If, then, we consider the two questions, first whether placental transmission is possible, and second whether it occurs so frequently as to constitute the principal cause of dissemination in tuberculosis, we must answer the former unconditionally in the affirmative, but the latter absolutely in the negative."

It would seem then, and clinical experience verifies the fact, that the cause of persons with a phthisic history succumbing more readily to this malady than those who are free from such inheritance lies in the fact that they inherit a predisposition to it, and do not inherit the germ.

The balance of the question now arises, viz., is tuberculosis infectious?

During the year 1900 there were one hundred and nine thousand seven hundred and fifty deaths from tuberculosis in the United States. In Germany, with a population of forty-nine millions, there were one hundred and twenty-three thousand, nine hundred and four deaths from this disease, a mortality that exceeded that of diphtheria, scarlet fever, typhoid, measles, and whooping-cough combined. Comparing this mortality rate with that of the various other diseases, we find that one-seventh of all deaths of human beings occur from tuberculosis. In addition, twenty-five per cent of all *post-mortem* examinations show a latent foci; then heredity would require eleven twenty-eighths of all human beings to carry the germ within them from birth, a condition that pathological investigation does not verify. Therefore, does not the great danger of this disease appear to be in infection?

The average case of the disease runs about three years, whereas the various contagious and infectious diseases run only as many weeks. Perhaps it is owing to its insidiousness that people disregard its infectiousness. The tubercle bacillus is a slow-growing germ, therefore does not show itself quickly, but it has great staying powers, and once having gained entrance to the system it is hard to eradicate, a fact that should be impressed upon the laity so that they may govern themselves accordingly.

Since one out of every seven deaths is caused by tuberculosis, and the average family consists of double this number, very few families escape. From the preceding data we then conclude, 1st, that tuberculosis is caused by the introduction into the system of the tubercle bacilli; 2d, that the germ is not transmitted direct from parent to offspring, except in rare cases, and when this phenomenon does occur, the child invariably dies within a few days or weeks; 3d, that a predisposition to tuberculosis is inherited from phthisis parent; and 4th, that it is contracted by inhaling the germs in dust, and by using tubercular milk and meat.

Therefore, persons predisposed to tuberculosis should exercise the greatest care in regard to overwork, exposure, and dissipation, and being susceptible to colds must never neglect even the slight cold, as it is so often the forerunner of diseases of the lungs.

The afflicted must guard against promiscuous expectoration, as this is where the danger lurks. A cuspidor, one-third full of water, should be used as a receptacle for the sputum, and this emptied into the sewer or closet. Never expectorate upon the floor, or on a paper on the floor, as particles of sputum will fly, and become lodged on the walls, furniture and carpets, and as soon as dry fly with the dust, to be breathed in by every occupant of the house. The habit of using rags to spit on is mentioned only to be

condemned. The sanitary cuspidor is a great convenience, and safe. The sputum should not be swallowed under any circumstance, and those affected should ever bear in mind the danger of reinfection through carelessness. The occupation chosen should be one free from dust and confinement.

Children who inherit a predisposition to tuberculosis should be watched from infancy. They must not be nourished by a sick mother. The nurse or governess must be a person of good health. Members of the family who are tubercular must not associate with nor kiss the child. The nursery must be kept free from tubercular germs. Such a child should be fed with pure milk, or milk modified to suit the individual case, should be given a daily bath, have regular hours for rest, and always an abundant supply of fresh air.

No claim is made that all those living or associating with tubercular persons contract the disease. This is not the case, possibly because many are immune, just as others are immune to scarlet fever, typhoid, and other common contagious diseases.

If persons are impressed with the importance of being careful about destroying the sputum, and carrying out the hygienic measures necessary, no one need fear living in the same house with a consumptive.

The curability of tuberculosis depends to a certain extent upon the stage of the disease. A cure can not be expected unless all the measures known to science are brought into use. Aside from the hygienic, dietetic and medicinal treatment we must have the confidence of the patient, if we expect the best results. The lack of an early diagnosis is responsible for many deaths from this disease. The conscientious physician will not overlook a defective respiratory murmur, or dullness over certain areas of the lungs, nor an apical catarrh.

Persons consulting a physician for a lingering cold, slight cough, or hoarseness, and who are ill-nourished and anemic, should be questioned in regard to family history and previous associations. In addition to this, the sputum should be examined to clear up the diagnosis.

The old story of telling patients that it is only a bronchitis without the above precautions reflects upon the profession, and no well-informed physician will be guilty of such an inexcusable offense.

Climatic conditions are of great importance, although the open air treatment proves effective in all countries. A mountainous country is considered best, since the air there is purer and drier, and more free from dust. Colorado does not agree with everyone, but helps the majority. Those in the advanced stages and those of a neurotic diathesis seldom make any improvement in this altitude.

Since the recognition of the bacterial theory of disease, the mortality rate has decreased about one per cent per year. This, of course, is encouraging, but it is nothing compared to what it should be, and the cause for this lies in the fact that its infectiousness is overlooked, or regarded as rare, which, in my opinion, is an unpardonable mistake.

The science of bacteriology has perfected sanitation. It has worked wonders along the line of preventive medicine, and in stamping out disease. It has given us the cause of tuberculosis, and if we expect to gain control of the dread white plague we must adhere strictly to the old adage "an ounce of prevention is worth a pound of cure." Therefore the duty of every physician is to impress this fact upon his patients, and to instruct such sufferers as to their plain duty to themselves, their families and environment. When this regime is strictly followed, then, and then only, can we expect to materially reduce the fearful mortality from tuberculosis.

Nevada Block.

[Written for the MEDICAL BRIEF.]

Hyperpyrexia in Hysteria.

BY WILLIAM S. LINDSAY, M. D.,

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Hyperpyrexia or excessively high temperature is brought about by frictional heat, supposed to be due to tissue metamorphosis or irritation of the heat centers in the brain. The question of heat centers in the brain is a mooted one. I believe the fol-

lowing case is an argument to show that we have heat centers in the brain, because in this patient there was no unusual tissue change in any part of her body; she was not lithemic, had no infection, no fever of any infective kind, and there was nothing to point to peripheral combustion. The heat centers in the brain must have been irritated to produce this extreme temperature.

This patient, M. M., was brought to the hospital with the following history:

As a child she had night terrors, followed by hysterias, which finally developed into hystero-epilepsy. This condition continued until her sixteenth year; for the following seven years she was apparently normal. At the onset of the present attack she attended a religious revival, and became intensely excited. There were recurrences of her old hysterias. The attacks occurred frequently during the day, followed by coma and great rigidity. During these attacks of excitement she would tear her clothing and bite her fingers. It was necessary to feed her by means of a stomach tube. She became greatly emaciated. The mental disturbance seemed more profound during her menstrual periods.

On her admission to the hospital, examination revealed extreme tenderness of the ovaries, anesthesia of the fauces, and all the symptoms of profound hysteria. The first night at the hospital she had an attack of excitement inducing coma, and the very high temperature of 106½° F. Dr. Kiene, the hospital physician, called me in the night to say that he thought our patient was "going out." I directed him to place her in a hot pack, which he did. At the end of an hour he telephoned me that there was no change in her temperature, and he felt she would surely die. I directed him to leave her in the pack. When I reached the hospital in the morning, her temperature was normal, and she had had her breakfast. For the time being her hysteria had ended, and she was better than she had been for some time; in fact, she seemed quite normal. About a week later she had another attack of high temperature (105° F.); was placed under the same treatment, with the same satisfactory result.

Following this she was more excited; she bumped her head, causing sore spots which she picked at, and exhibited a good deal of mental deterioration. Her condition seemed so severe that we felt justified in doing anything that might give relief. Prior to her appearance at the hospital she had had treatment for her condition. Her brother, a very capable physician in Los Angeles, had exhausted every means of treatment before she was sent to the hospital. The continued tenderness of the ovaries, the great disturbance at the menstrual period, and the profound character of the hysteria seemed to warrant an oöphorectomy. Following the operation she had but one attack, a very slight one. She left the hospital in less than five weeks, and her subsequent history is one of perfect recovery.

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[Written for the MEDICAL BRIEF.]

The Effects of Fatigue Upon Gastric Digestion.

BY G. WILSE ROBINSON, M. D.,

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Fatigue as defined by Howell is a more or less complete loss of irritability and contractility, brought on by functional activity.

This condition, which we call fatigue, not only occurs in the protoplasm of the cells that are functionally active, but in all cells of the organism that are in relation to the active cells by the circulation. As a result of the functional activity of the cell protoplasm there is produced certain acid reacting compounds, chief of which are sarcolactic acid and acid potassium phosphate. These acid waste products being produced more rapidly than they are removed by the excretory organs, accumulate in the active cells and circulation.

These acid reacting substances lower the irritability and contractility of the protoplasm by inhibiting the oxidation of the energy producing compounds.

We know that these acid waste products are carried by the blood to all of the cells by all parts of the body, becoming fatigued

when only one part is active, or it can be experimentally determined by injecting the blood of a fatigued animal into the circulation of a resting animal when the resting animal's tissues immediately show the reaction of fatigue, or by injecting the blood of a resting animal into the circulation of a fatigued animal, at the same time removing a like quantity of the blood of the fatigued animal; the tissues of the fatigued animal immediately show a less marked reaction of fatigue.

There is also another change which takes place in the active cell, and contributes to the condition known as fatigue. I speak of the consumption of the energy-producing compounds. These compounds being consumed more rapidly during the cells' functional activity than they are supplied by the blood, they are so much decreased in quantity in the cells that there is not an adequate supply available for the cells to liberate enough energy to enable them to respond strongly to stimuli. If the consumption of these compounds should continue until all of them in the cells were consumed, then the tissues would be exhausted, so the inhibitory influence of acid waste products upon the oxidation processes is a protective measure and protects the cells from injury.

With these remarks upon the etiology and conditions of fatigue, we shall discuss briefly the effects of fatigue upon gastric digestion. I am convinced that a clear conception of this subject will be of much worth to physicians in determining the etiology and effectively treating many gastric disorders.

For a normal gastric digestion we must have a normal secretion and a normal motility.

The gastric secretion can only be normal in quantity and quality when the secretory nerves and secretory cells are able to properly perform their function. The secretory cells which secrete the digesting portion of the gastric juice are excited to activity by two forms of stimuli—nervous and chemical. The first gastric secretion following the ingestion of food is the result of nervous excitation, and is termed psychical secretion.

The central nervous system receives a sensory impression of food, and impulses are then transmitted through the secretory nerves to the secretory cells of the gastric glands, stimulating them to activity.

The chemical stimuli of the secreting cells are substances termed secretins, and are of two sources. Certain foods such as meat extracts are rich in secretins, and secretins are formed during digestion. These secretins are absorbed, carried to the secretory cells, and excite them to activity.

That the mechanical presence of food in the stomach does not excite a digesting secretion can be experimentally determined by introducing food which contains no secretins such as bread and white of egg into the stomach of a dog with a gastric fistula, while his attention is attracted in the opposite direction. There being no psychical secretion to start digestion, no secretins in the food, and none developed as a result of the digestion of the food, this food is not digested, and acts as a foreign body.

Nerve cells and nerve end organs show the reaction of fatigue earlier under the influence of fatigue-producing compounds than do any other tissues. When the body is in a state of fatigue, the nerve cells and end organs controlling gastric secretion are inhibited in their oxidation processes by the circulating acid waste products, their irritability is decreased, and they do not respond to the ordinary excitations which they receive as a result of the central nervous system, re ceiving sensory impressions of food There being no, or very weak, impulses transmitted to the secretory cells, the psychical secretion is absent altogether, or is much diminished in quantity.

The irritability of the secretory cells is also decreased by the inhibiting influence of the circulating fatigue-producing compounds, and they refuse to properly respond either to the weak impulses which they receive from the fatigued nerves or to chemical stimulation of the secretins of the ingested food. And the inevitable result is a diminished and inadequate gastric secretion or a secretion deficient in HCl, and possibly pepsin.

The so-called mechanical part of digestion can properly proceed only with a normal gastric motility. A normal gastric motility is not possible unless there is a properly functionating motor nerve and gastric musculature. The motor nerve cells and motorial end plates in fatigued conditions of the body become fatigued in the same manner as do the secretory nerve cells and end organs as mentioned above.

In this state the ordinary stimuli excite only a weak response, and the impulses transmitted to the gastric muscle cells are inadequate to excite a strong contraction.

The muscle cells are also inhibited in their oxidation processes by the circulating fatigue-producing compounds, and are unable to liberate an adequate amount of mechanical energy to contract strongly, and their irritability being decreased they respond very slowly and weakly to stimulation.

The immediate effects of ingesting food when the secretory nerves and secretory cells are altered in their activity by fatigue, as described above, are chiefly those of an inadequate secretion of HCl, as it is this compound which is principally reduced with an insufficiently active secretory gastric cell.

With a normal gastric secretion, salivary digestion of carbo-hydrates is entirely inhibited by the free HCl within thirty minutes after the ingestion of food.

This inhibition does not occur in fatigue states, and salivary digestion continues with an excessive production of maltose. This is attacked by the ingested yeast cells which are not interfered with in their action by the small amount of HCl present, and alcoholic fermentation is the result. The small amount of HCl secreted is inadequate for the destruction of the ingested bacteria, and several other forms of food fermentation occur, such as lactic, butyric and acetic acid, and gaseous along with other forms, and food decomposition may result.

Peptic digestion of proteids is inhibited because of the deficiency of the HCl, and in the absence of the peptic digestion the pyloric orifice is not stimulated to open at irregular intervals as normally by the chemical compounds which occur as a result of peptic digestion, and the food being unable to pass into the intestines, stagnates. This favors fermentation, may result in vomiting, does result in gaseous eructation, and much gastric distention.

The effects upon gastric digestion of motor insufficiency as a result of a fatigued musculature and motor nerve as described above, are stagnation of food, improper mixture of gastric contents, too long retention of food in stomach, and it adds much to the condition favoring food decomposition and fermentation. This, too, favors gastric gaseous distention, as the muscle tension is subnormal, and gastric dilatation by sagging along greater curvature by the weight of the stagnant food.

Gastritis may and does frequently result from the ingestion of large quantities of food in fatigue states. This is the effect of the irritation of the gastric mucosa by such irritating acids as oxalic, butyric, formic, and other bacterial products which are formed.

The gastric mucosa becomes engorged and thickened as a result of the irritation. Degenerative changes take place in the secreting cells, and may extend to the musculature, and the entire stomach is permanently injured.

Argyle Building.

[Written for the MEDICAL BRIEF.]

What Killed Her?

BY C. E. WALTON, LL. D., A. M., M. D.,

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"The race is not to the swift nor the battle to the strong;" "time and chance happeneth to all." The words of "the preacher" came to my mind after a recent operative defeat which came so unexpectedly, so unaccountably, that the confidence resulting from a large experience received a severe shock.

A woman some forty-three years of age had suffered for a long time with severe and sudden attacks of abdominal pain. An examination revealed the presence of a pediculated fibroid tumor of the uterus. The

possible excursion of this movable tumor accounts for the attacks of pain, which were produced by the twisting of the pedicle. An operation was unhesitatingly advised, and a favorable prognosis assured, with the modification of an unapprehended accident or complication. The operation revealed a fibroid about three inches by two, with a long pedicle the size of a lead pencil. This was tied and cut.

Another tumor in the fundus about the size of a small hickory nut was shelled out and the matrix closed. The operation was short. The anesthetic well borne, and the patient put to bed without a question as to the outcome. The next morning found the patient with nausea and some abdominal pain, but not more than is usually present during the first twenty-four hours. I noticed, however, an unusual restlessness of the patient. By evening the temperature ran to 103 degrees; pulse, 140. The three observations for the day being:

4 a. m.	T.	99	2-5 P.		104
1:30 p. m.	"	102	"		128
5 p. m.	"	103	"		140

This record, while excessive for the first thirty hours, was hoped to be but the expression of a traumatic fever in a very nervous patient.

The next day's observations were:

7 a. m.	T.	100	4-5 P.		100
9 a. m.	"	101	"		122
6:30 p. m.	"	102	3-5 "		136
9 p. m.	"	103	"		138

The respirations were hurried, the nausea and restlessness persistent.

On the morning of the third day:

3 a. m.	T.	100	4-5 P.		148
4 p. m.	"	103	4-5 "		148
6:30 a. m.	"	106	2-5 "		...
9 a. m.	"	105	1-5 "		...

At 10:10 A. M. patient died, less than seventy-two hours after operation. To the friends this seemed little less than a tragedy. She had passed from seeming health on Saturday morning to her death on Tuesday morning.

An incomplete *post-mortem* showed no cause of death. There was a slight peritonitis; the microscope showed no infection. What killed her?

Eighth and John Streets.

[Written for the MEDICAL BRIEF.]

A Case of Frontal Sinusitis Due to Luetic Infection, with Absence of Fronto-Nasal Duct, and a Fistulous Opening.

BY WILLIAM D. BLACK, M. D.,

Professor of Otology and Laryngology in the Medical Department of Barnes University. St. Louis, Mo.

This patient, who was a tall and well-built man, had always been well up to six years ago, when he had an attack of syphilis. The present trouble began two years ago with pain and discomfort in the nose. No medical attention was received until four months afterward, when he visited Dr. Shanklin, of this city, who removed a piece of carious bone in the region of the middle turbinate of the left side, and found maggots growing within. The odor was quite perceptible, and, owing to the patient's condition, he was referred to the City Hospital for treatment. There was a stenosis of the left nostril in the region of the inferior cartilage, due to the boring through of one of the maggots, which resulted in inflammation of same, and caused thickening.

On November 1 he came to my office for treatment. I found a fistula just above the eye about two-thirds of an inch from the fronto-nasal suture. This fistula would discharge for days and then remain quiescent. The disappearance of the discharge was always followed by pain along the supraciliary ridge of that side, and at times great edema of the upper eyelid. The discharge was rather scanty, and consisted of muco-pus, with an occasional mixture of blood. I was unable to inspect the superior or the middle meatus thoroughly, owing to the stenosis of the anterior nares of that side. On palpation, the region of the lachrymal bone was sunken, and the nose itself a little flattened and somewhat twisted on itself, but no typical saddleback nose. There was a large perforation of the septum, involving the greater part of the triangular cartilage and a good deal of the bony portion.

Transillumination showed the perforation beautifully. The sinus appeared clear, which, in this case, proved that transillumination without other symptoms

is of little diagnostic value in such cases. There were present scabs and crusts in the region of mid. turbinal, but nowhere could I find a continuous or even intermittent flow of pus. The middle terminal was almost entirely absorbed through this atrophic and necrotic process.

Owing to the duration of the disease and on account of the great suffering of the patient when the fistula closed, I decided to operate. January 1, at the Centenary Hospital, I shaved the eyebrow of that side and cleansed the field of operation with bichloride of mercury. After making tension on the cellular tissue of the upper eyelid by pulling it upon the edge of the supra-orbital ridge, I made an incision extending from the inner canthus of the eye clear through the fistulous tract, which opened externally to the supra-orbital notch. The incision measured one and one-quarter inches. I drew back the periosteum, revealing soft, carious bone in the region of the lachrymal and nasal bone. With a curette the dead bone and granular tissue were removed. This opening led into the sinus, and was in the anterior wall at the inner angle of the orbit, while the fistulous opening in the muscular tissue was external to the opening in the bone. I used the rongeur forceps to remove the bone, and stripped the sinus of what mucous membrane remained.

The posterior wall, floor and roof were in good condition, which was surprising considering the history of the case, most authorities claiming that syphilitic necrosis attacks the posterior wall by preference. After diligent search I failed to find the fronto-nasal duct, nor could I find it after using the probe carefully in every direction in this region. The bony septum which separates one sinus from another was found in good condition. I measured the distance intra-nasally, and found that my probe was certainly at the bottom of the sinus. I tried many times to find the opening, if there was one, but could not, so I decided not to make any opening into the nose, but just pack it externally as an open wound. Believe the fronto naso-duct was obliterated by repeated attacks of inflammation. Stitched about one-half inch of it, sewing each end.

Wound packed with iodoform gauze, one-half inch strips. Dressing removed after thirty-six hours, wound looked healthy, edema of the eyelid much less than expected. Wound packed every other day for several weeks, and during the last few weeks, owing to the slight amount of discharge, and the filling in of the cavity; the wound was packed just twice a week. After eight weeks of dressing, the wound has healed entirely. There is not much disfigurement, although on palpation one can readily detect that the entire wall had been removed. The patient has been entirely free from pain, and considers himself cured.

I have operated for stenosis, cutting the fibrous band which grew along the floor of the vestibule, and also another fibrous band at the top of the nares, and then dilated with plugs, and kept it dilated in this way for twenty-four hours, using an ash splint afterwards. After dilation for ten days, the splint was removed. There has been some contraction, but the nostril is in better condition, and more nearly approaches the normal than before the operation, and permits of a thorough examination of the nasal cavity on that side. Up to this time there has been no necrosis, nor has there been any discharge in the region of the middle meatus. This is probably due to the administration of potassium of iodide internally.

1411 California Avenue.

[Written for the MEDICAL BRIEF.]

Prophylaxis of Rectal Diseases.

BY W. H. COFFEY, M. D.,

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Kansas City, Mo.

Recently it was my very great pleasure to listen to a lecture by one of our authorities on modern medicine. The greater part of the lecture was devoted to the rapid progress of our profession along the line of prophylaxis, or the prevention of disease, by the discovery of vaccine virus and the various antitoxins —fresh in mind the recent act of our City Council regarding compulsory vaccination, causes us who are weak to stop and

take our bearings, that we may better know "where we are," but we dare not stop long, for men of science go on as if nothing had happened, for these things are as mere pebbles on the way.

But a few years will elapse when an epidemic of small-pox, with its oldtime severity, will sweep over our city, carrying away thousands of our people. We can but pity the City Council for taking the position they have, and in the language of our Master say, "Father, forgive them, for they know not what they do." In this day of greed and graft the very honesty of our purpose causes the laity to question when we advise a thing that would be detrimental to us financially, but we must not lose sight of the fact that long ago our profession, by common consent, was made the guardian of our neighbor's health, and that we are to a greater extent than anyone else on earth our brother's keeper cannot be denied. How we have kept this trust history shows. We have our city physician, who looks after the health of the poor. We have our contagious disease physician, who is doing everything in his power to avoid an epidemic of diseases; the health officer who looks after the hygienic conditions; he sees that there is no tainted meat or improper food of any kind placed on the market to poison; in fact, instructing his people in every way to live that they may enjoy good health, thereby a fuller life. All of their combined efforts are good, and are prophylactic in treatment. We may never grow rich by such treatment, but then, what matters it? A rich doctor is a rare being, and in his profession is always out of place, notwithstanding the fact that we sometimes pretend that we are rich. The man who prevents a wreck is a far better servant of mankind than the one who simply restores things to their normal condition; but if it be possible (and it is) to combine the two, the result is a benefactor of mankind.

It has been a surprise to me to find how voluminous is the literature regarding this small part of our anatomy called the rectum. Yet but little has been said about the prophylactic treatment of diseases of this part. May we view for a moment the origin of rectal diseases, that I may better explain my meaning.

The Bible shows us that man received his first knowledge of these diseases through the first and great lawgiver, Moses. After speaking to the Jews, telling them what their reward would be if they strictly obeyed the laws, he further said in these words, "If thou wilt not hearken unto the voice of the Lord and obey His commandments, the Lord will smite thee with the botch of Egypt and with the emerods, whereof thou canst not be healed." Hippocrates in writing of emerods used the words hemorrhods. We find these diseases spoken of frequently in the Scripture. I have called to your mind these biblical facts that we may remember how ancient hemorrhoids are, and to show one of the primary causes of the disease. It appears that from the very beginning of man, at least from the time of medicine, this end of man, as well as the eternal end of him, has been talked and written about, and no doubt will continue to be so long as man exists.

What I am trying to illustrate is, that God's physical, as well as his moral laws, are in effect today, and the individual who disobeys them will sooner or later suffer the penalty as truly, and more surely will he suffer punishment than when he disobeys any of man's laws. To the universal law that everything works from cause to effect, our diseases offer no exception. Why is it then, that there is no unanimity of opinion today regarding the cause of a disease so long known and so common as hemorrhoids? Everything in the whole category of diseases has at some time or another by some one of the various writers been given as a cause. They tell us that cirrhosis of the liver, stricture of the urethra, enlarged prostate glands, retroverted uterus, pregnancy, nervous conditions and constipation are causes. All of these we readily agree are but secondary causes, and each is in part a mechanical obstruction which can be removed. But the primary cause is man's disregard of Nature's demand. If we, as physicians and Nature's true assistants, can so educate the laity that they will put aside their pill box, and if we see to it that the parents refrain from the use of purgatives with their children, and would inculcate in them regular habits with regard to their daily evacuations of the

bowels, we would indeed make rapid progress in prevention of rectal diseases in the oncoming generation.

We have it pounded into us that the anatomical condition of this part of our anatomy has much to do with the causation of those diseases. I do not believe that it was ever intended that man should go on his all-fours like the lower order of animals, but that he should walk upright to do his part in obeying God's law, and keep his health. And in this connection there is one thing which I wish specially to emphasize, for it is altogether misleading.

In one of our latest textbooks, the author claims that the rectum is a storehouse for fecal matter after the process of digestion is complete; and to make it worse, he says that the sigmoid comprises that part of the intestinal tract beginning at the termination of the descending colon, near the outer border of the left psoas muscle, and ending at the rectum at the third sacral vertebra. If we take this anatomical definition as being correct, that leaves a very small portion of the bowels for a rectum, and consequently a very small storehouse for the fecal material, and the sphincter muscles, you will observe, would have to be in constant contraction to retain the material, which would be impossible and altogether unphysiological. No, the author is wrong; the very anatomy of the part disproves what he claims. I have examined a great many rectums, and have yet to find a normal one with any fecal material in it, unless examining just before the time of stool. You will remember the blood supply of the rectum runs longitudinally with the bowel, and the longitudinal muscular fibers do not run in bands, but are very much stronger than in any other portion of the bowel, and the rectum is comparatively straight; while on the other hand we have the sigmoid, the natural reservoir for fecal material. When the fecal material becomes bulky in the sigmoid, it has tendency to empty the vessels. If the fecal matter is allowed to remain it tends to retard the return flow of blood, creating a stasis, creating veins with artificial valves, and in this way we get hemorrhoids. We often look over the tree tops when we should seek at the roots for the evil.

We are told that it takes sixteen to twenty hours from the time food is ingested before the refuse material reaches the rectum. When it reaches that point a signal is given for a motion of the bowels. If it is disregarded by the individual it is returned to the sigmoid, there to remain possibly until the next day about the same hour, providing the individual's habits are the same as they were the day previous. So this continues day after day, nature still clamoring for her rights; finally she grows weary and makes her demands less frequently; it is then that the individual begins to get busy with cathartics, enemas, etc. Now we find that no longer is all the fecal matter returned to the sigmoid, but remains in the rectum, becoming dry and hard, and pressing upon the various adjacent organs; this is the rectum that has been called normal by the author alluded to.

We are taught that men's occupation has much to do with rectal diseases. I do not believe it. If nature's demands are not obeyed, it matters little what the occupation is, the result will be the same.

Errors of diet play an important role in the causation of constipation, and, therefore, rectal diseases. A deficiency of water in our diet is a common error—diminishing the volume of blood and lessening the secretion of fluids by the intestinal glands.

Regarding the cases which come under the care of the surgeon, one of the commonest conditions calling for surgical interference in deep-seated abscess. If these abscesses are opened early a fistula will be prevented. We cannot lay too much stress upon the importance of cutting the muscles but once at any one operation, and the incision must be carried directly transverse with the facia and muscular fibres, in order that the future effort at repair may be successful. If it is possible to cause our patients to heed the law of Nature, the greatest prophylactic treatment for rectal diseases will have been administered.

224 Bryant Building.

[Written for the MEDICAL BRIEF.]

The Treatment of Colles' Fracture.

BY WILLIAM B. CHURCH, M. D.,

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Cincinnati, Ohio.

The most frequent of all fractures, and the one most frequently ill-treated and yielding unsatisfactory results because of partial disability and deformity, is the Colles fracture.

The treatment of Colles fracture may be summed up in two words, correct adjustment. By the application of extension and counter-extension the deformity seems to be removed, but when the force is relaxed the deformity returns. The reason for this is that the fragments are not brought into line by simple extension and counter-extension. The distal fragment overrides the proximal.

In order to bring these into line and accurately adjust the fracture, the hand should be flexed upon the forearm while extension is being made, and drawn at right angles until the lower fragment is dragged down so that when extended it will be in line with the upper fragment when the hand is extended. Then if the arm is laid on a flat surface the "silver fork" deformity will not recur. If it does recur it is evidence of incomplete reduction, and if the dressing is applied before complete reduction, there will be a swelling and pain, and this of itself will be further evidence of incomplete reduction. The operator should never be satisfied until the arm, without any dressing, retains its normal contour, and there is freedom from pain.

In the great majority of cases the arm is dressed when only partially adjusted. Then there will be a painful, tedious convalescence and stiffness, and deformity remains indefinitely.

Some surgical authors claim that a certain degree of deformity necessarily follows a Colles fracture, even under the best treatment. I take issue with all such statements. I have demonstrated in repeated instances, that there need be no pain after the arm is dressed, and slight stiffness of the fingers when the dressing is removed, and no deformity subsequently

The above is not presented as a wholly original suggestion, but it seems justified in view of the fact that the majority of cases of Colles fracture are still treated so badly, and the suffering is so great and the disability and deformity are still shown after such treatment as is applied.

The attention of the general practitioner should still be called to this most frequent of all deformities, and it should be understood that successful management involves three things: Correct adjustment, cessation of pain immediately after such adjustment and during convalescence, and complete absence of deformity.

Of the many different forms of splint which have been devised for treatment of this fracture, the pistol-shaped splint is, perhaps, the most frequently used. If the fracture is perfectly adjusted, even this splint will not prevent a good result; but it serves no useful purpose, tending to increase the displacement of the lower end of the ulna, and, by enforcing a constrained and unnatural position, causing stiffness and deformity. It should be discarded. An incomplete adjustment cannot be improved by any such clumsy device. There is little tendency to displacement; a pasteboard splint applied to the palmar surface of the forearm, extending from the bend of the elbow to the metacarpo-phalangeal articulation, is sufficient. A pad fixed diagonally across the lower end on the inside, over which the fingers can rest, will make it comfortable. A roller bandage completes the dressing.

Three weeks is sufficient time for this dressing to remain, and the use of the limb can be resumed without risk, and instead of great suffering and complete disability for months, as frequently happens, there will be no suffering, and convalescence reduced to within one month.

628 Elm Street.

I can not do without the BRIEF, so continue to send it. The good advice obtained from the MEDICAL BRIEF is very valuable to one whose time is given to the sick room. The articles on typhoid fever have been especially interesting and very beneficial to me.—MRS. CLARA I. HODGE, Professional Nurse, Racine, Wis.

[Written for the MEDICAL BRIEF.]

Accessory Sinus Disease as Viewed From the Standpoint of Dentist and Rhinologist.

BY T. E. CARMODY, M. D., D. D. SCS., D. DS.,
Professor of Oral Surgery in Colorado College of Dental Surgery: Rhinologist and Laryngologist to Mercy Hospital, Etc.
Denver, Colo.

The accessory sinuses in general and the maxillary sinus in particular are of especial interest to the dentist on account of the close relation of the latter to the teeth, and of it in turn to the other sinuses, while the rhinologist is equally interested in all.

Our present anatomical knowledge of these cavities we owe mostly to the few anatomists who have interested themselves in the structures of the face. First among whom should be mentioned Zuckerkandl, others being Hajek, Turner, Killian, Luc, in Europe; Cryer, Holmes, and a host of others in this country.

The maxillary sinus, the largest, most dependent, and withal the most frequently affected, and probably the most easily treated, begins its development about the fourth month of fetal life, and although no exact time can be stated, it is probably fully developed by the twenty-fifth year. It is located in the body of the superior maxillary bone, at times extending into the malar. It is pyramidal in shape, with base toward the nasal cavity, and apex directed upward and outward. Its floor lies in relation to the teeth, the nasal wall to the nose, and through this wall we have the natural opening into the middle meatus.

From a pathological standpoint the floor and the nasal wall are the only ones of importance, excepting that the roof, which is also the floor of the orbit and the anterior or facial wall, are liable to accidents.

The ethmoidal sinuses or cells are located in the ethmoid bone in the upper part of the nose between the orbits, and only separated from the brain by the cribriform plate. Some cells are also completed by the articulation of the ethmoid with the frontal and sphenoid. In development they keep pace with the antrum. They are divided into two sets, while some anatomists divide them into three for convenience; we will adopt the former.

The anterior cells by their ostia open into the naso-frontal duct, through this into the hiatus semi-lunaris in the middle meatus. The posterior cells open into the superior meatus.

The sphenoidal sinus is located in the body of the sphenoid bone, and is usually cuboidal in shape, although it may extend into the greater and lesser wings of the bone. It first appears about the third year, and is fully developed about the eighth.

From a pathological standpoint it is important as being in such close proximity to the brain, and especially the optic commisure, which lays on its roof—disease in which sometimes causes meningitis, or blindness. It opens into the superior meatus with the posterior ethmoid cells.

The frontal sinus is located in the frontal bone between the plates, and, as a rule, in the perpendicular portion, although it is quite frequently found running back between the plate over the orbit. It is not present until after the second year, and reaches full development about the eighteenth year.

There are two ways in which infection may travel to each of the accessory sinuses, and both ways are probably given full credit excepting in the case of the antrum.

The reason for the diversity of opinion regarding the antrum is due largely to a misunderstanding of the anatomy of the region.

In the Annals of Otology, Rhinology, and Laryngology for March, 1904, Richards quotes from a paper by Dr. A. Strubel, of Dresden, regarding original work done by him, in Zuckerkandl's laboratory. His results are of interest. After injecting the posterior alveolar arteries, the specimens were decalcified, imbedded, and sections made. Examination showed that we have three systems of vessels: a long narrow one, extending to the deeper layer of the mucous membrane of the antrum, the periosteum, a coarse-meshed system of the spongy bone of the upper jaw, and a fine-meshed one supplying the alveolus and the covering of the root tooth. Individually they were very characteristic,

but that with one another they had such close connection that it was difficult to differentiate between them.

The junction of the muco-periosteal vessels with those of the face is brought about through numerous short, thick vessels, coursing at short intervals in canals at right angles to the direction of the bone, while the obliquely coursing arteries of the moderate size, which bring about the communication between the blood system of the spongy bone and that of the alveolus, are reinforced by a large number of the finest blood vessels.

Here it is seen that the fine capillary system of the spongy bone is connected with those of the alveolus, and proves substantially the theory that the three systems are one and the same.

Therefore, we see that the lining membrane of the antrum, the alveolus, the teeth, and the entire superior maxillary bone with the mucous membrane of the mouth, are supplied by one system of vessels which communicate so closely that infection may travel from the teeth or mouth without there being direct continuity of diseased with healthy tissue.

This brings us to the point as to whether disease is of dental or nasal origin. As to the whole taken together, we know that constitutional diseases have a very pronounced effect, and probably have a great deal to do with lowering the vitality of the tissues in this part of the body. Authorities are not in accord as to the most common source, although the larger number, if not all, believe the teeth as well as disease of the nasal mucosa to be etiological factors, and B. Frankel, Moritz, Schmidt, Semon, C. Heath, Grunwald and Bayer assert that disease of the teeth is the most common cause of diseased antra.

On the other hand, equally competent authorities as Zuckerkandl, Krause, Hartman, Bosworth, Cryer, assert that in the majority of instances disease results from disease of the tissues of the nasal cavity. Zuckerkandl and others have held that infection traveled from the nasal cavity through continuity of mucous membrane, while Bosworth disputed this, saying that it was due to a swelling of the mucous membrane around the ostium, preventing the escape of secretion, but as this would have to be infected before you would have an empyema, it would amount to the same thing.

Herbert Tilly, of London, in a recent article, reports three hundred cases seen in the last ten years, and in only one of which sound teeth were found.

Bodecker thinks teeth the most prominent factor.

Kyle believes the majority of cases due to diseased teeth.

B. Frankel states as a result of his experience, the larger number of cases by far are due to diseased teeth, and that he had never seen a case in which the corresponding tooth was not diseased, or had been previously extracted.

Lermoyex states that disease of this cavity is more frequently of dental than of nasal origin.

On the other hand, Krause considered that carious teeth did not bring about empyema.

Jeanty, in twenty-one cases where there were diseased teeth, with twenty-two cases of empyema, considered that in no case were the teeth the cause.

Killian believes infection not due to teeth as often as reported.

Hejek, in approximately two hundred cases, found only thirteen of dental origin.

Richards reports having found 64.6 per cent of nasal origin, 29 per cent dental origin, 3.2 per cent traumatic, 3.2 per cent luetic.

Cryer, in his work, "Internal Anatomy of the Face," says that more teeth are diseased as the result of empyema of the antrum than antra infected from diseased teeth.

As for nasal origin, the disease which produces most trouble in this way is influenza, although any of the wasting diseases, as acute fevers, diabetes, syphilis and tuberculosis may be causative factors. Ordinary colds, as they are called, which are caused by a lowering of vitality of the mucous membrane of these parts, on account of the interference with the equilibrium of the circulation, and thus preparing a good medium for the growth of bacteria, are due to no single germ, but to mixed infection. These diseases produce, first, an inflammation of the mucous membrane covering the inferior and middle turbinates and that located between them, thus allowing the germs

to multiply in the tissues around the openings of the antrum, the anterior ethmoid and frontal sinus, any or all of which may become diseased as infection progresses.

Taking, for instance, a case where the ethmoid alone is affected, it can easily be seen that the infection may travel upward, affecting the frontal sinus through the infundibulum, or downward passing through the ostium maxillary into antrum. If not in this way it may travel by a more direct route, that is, by necrosis of the thin walls of the cells nearest the antrum, or frontal sinus. After the antrum is infected we may have disturbance of the teeth, due to pressure on the nerves or direct infection of them, as in many cases there are defects in the walls of the canals in which they are located. Should a devitalized tooth be present we have a weak spot to be attacked, and to which the patient refers as a painful point.

In the observation made by medical men the teeth are not examined as thoroughly as they should be, or would be if dentists were called in consultation, for when we say diseased teeth it may mean nothing unless the caries has gone sufficiently far to allow infectious material to travel through the pulp, or unless the gums and process are diseased, which fact is entirely overlooked; so far as I can learn, we have no chance of infection.

However, if Strubel's observations count for anything we may get infection from the mucous membrane, even though we have sound teeth. As the antrum increases in size, according to the rapidity of the eruption of the teeth, I fail to see how we can have empyema of the antrum of dental origin much before the fifteenth year. Ingerson reports a case which was at first thought to be antral disease in a child of four years, but which he afterwards concluded was a dentigerous cyst. Two teeth were present. Weimer reports a case of a child of three and one-half years with two temporary teeth and sarcomatous mass between mouth and orbit. This was probably not in the antrum, but had created a space for itself, afterward involving the surrounding tissue.

In nine cases of my own and three seen in consultation, four cases were of undoubted dental origin. Four developed after-attacks of influenza, in one of which there was a diseased root of a first molar. In another, the upper teeth had been extracted eight years previous to the first symptoms. The other two, which were acute cases, the teeth were found to be entirely sound. In one of these, however, the pain was at first wholly referred to the teeth. Three had been troubled with ethmoidal, or frontal sinus empyema for years, which dated back to severe colds or influenza. In one of the latter the frontal, an ethmoid, dated back ten years, while the antral disease had been present two and one-half years, at which time the pulp of a second bicuspid was devitalized and canal filled. In this case we may have a combination of dental and nasal, or, it may be, dental, notwithstanding the suppuration above.

In one syphilis was the cause of the sinus disease, but in this case antral discharge had ceased, though the ethmoids and sphenoids were still active and required operation. The teeth were all in healthy condition.

It must be borne in mind that disease of the antrum may also cause inflammation of the tissues of the nasal cavity. Grunwald states that a permanent thickening of the median border of the upper surface of the lower turbinate is pathognomonic of suppurative disease of the sinus.

Another important point is that discharge need not necessarily be fetid, and that we may have profuse discharge, fetid or otherwise, without pain or other subjective symptoms.

[Since writing the above I have seen seven (7) cases of disease of the antrum, independent of other accessory sinus cases, and of this number five (5) were of dental origin and two traumatic. Of the latter one was infected by having the whole floor taken away when a dentist extracted a tooth, there being osseous union between the second and third molars, and pulp came away with them. The second case received a kick from a horse which fractured the floor, and drove two teeth into the antrum.]

1427 Stout Street.

[Written for the MEDICAL BRIEF.]

Motor Insufficiency and Dilatation of Stomach.

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To recent methods of diagnosis belongs the credit of recognizing in motor insufficiency the usual cause of the ordinary symptoms of dyspepsia. Undue retention of food in the stomach, whether due to over-indulgence, pyloric obstruction, atony of its muscular fibres, often gives rise to fermentative and putrefactive changes in the gastric contents, to pressure and over-distention of the stomach wall, to irritation of the mucous membrane by the growth of micro-organisms, and to regurgitation and vomiting as a means of relief. No very definite relation exists between gastric digestion and the motor power of the stomach; a delayed digestion is often compensated for by an increased gastric peristalsis, hastening the almost unchanged foodstuffs into the intestine for their complete digestion; while quite as often a hyperchlorhydria is associated with reduced motor power and consequent distress. Dilation of the stomach, which may be either acute or chronic, is a result of motor insufficiency whenever the resistance offered by the contents become so great as to overcome the muscular power of the stomach. This may take place simply from muscular atony, or, in cases of obstruction, the musculature of the stomach may be even relatively hypertrophied, in response to the increased demand for work, yet unable to fully compensate for the unusual resistance. Thus we recognize an atonic dilatation and an obstructive dilatation, though in its most advanced stages the latter often becomes atonic also from fatty degeneration and atrophy.

The diagnosis of motor insufficiency does not present much difficulty, provided the patient will consent to the employment of the stomach tube, which, with a little tact on the part of the examiner, he will usually do. Under normal conditions a test dinner, consisting of a plate of meat-broth, five to seven ounces of beefsteak, one and one-half ounces of mashed potatoes, and one roll, is generally propelled into the intestine in about four hours. If in seven hours, or later, aspiration with the tube should reveal food residue in the stomach, positive evidence of motor insufficiency may be had from the amount of the residue removed; a large quantity (sometimes this may even exceed the amount of the test meal) denotes advanced insufficiency and dilatation. The most convenient time for the test meal I have found to be at noon, aspirating the stomach at seven P. M., which procedure, if the stomach is found empty, enables me to offer a test-breakfast for chemical analysis immediately thereafter, remove it in one hour, and have it filter during the night.

The size and location of the stomach are usually best estimated by distending the empty stomach with the gas generated from a teaspoonful of bicarbonate of soda and a slightly smaller quantity of tartaric acid, taken separately in a little water. This might seem a large quantity, and will, in a patient not too corpulent, afford a distinct outline of the stomach, both to inspection and palpation, but less discomfort is experienced by this distention than is sometimes supposed. Except in cases of gastric ulcer or serious heart disease, it is also practically without danger. Auscultatory percussion should be practiced before and after the distention, outlining the margins of the stomach with a skin pencil for comparison. Any extension of the lower margin *below* the umbilicus when the organ is thus distended, is evidence of dilatation or prolapse. The latter condition may be differentiated from dilatation by ascertaining the position of the pylorus, or of the lesser curvature, which usually can be outlined by the above method of distention. In cases of doubt the lower border may be determined by having the patient take three or four glassfuls of water on an empty stomach, comparing the results of percussion before and after, and noting any change in resonance after changing the position of the patient. Splashing of the stomach at an hour when it should be normally empty, or in an abnormal location, also constitutes a valuable symptom.

Though occasionally a mild degree of motor insufficiency may exist without discomfort, usually the patient presents a complex of symptoms which, while varying greatly in its manifestations, should make us suspect the existence of this disorder before a physical examination is made. Such patients will state, for example, that they have a desire for food, but become satiated after eating only a small quantity, and complain of a sense of fullness and pressure after larger meals. The clothing becomes uncomfortable, and there is heartburn and belching. Repeated belchings after meals is generally due to rapid growth of yeast cells, which is not embarrassed by even excessive secretion of hydro-chloric acid, and is highly suggestive of reduced motor power. This may or may not be complicated with dilatation. A rather unusual case of motor insufficiency came under my observation at the City Hospital some years ago. The patient, an elderly man, suffered almost constant eructations after taking any amount of nourishment. His radial arteries were "pipestem" and heart feeble, precluding the insertion of the stomach tube. After lingering for many months the patient died at the hospital, and on autopsy we were surprised to find his stomach contracted to about one-half of its normal size from an interstitial inflammation.

With the advent of dilatation the symptoms become more marked and more general. As even a healthy stomach absorbs but little water, and the dilated stomach forces less into the intestines, the stools become infrequent, hard and dry; sometimes diarrhea alternates with constipation. The urine grows scant, contains an increased amount of indican and diacetic acid, the chlorides are diminished and albuminuria sometimes sets in. The skin becomes dry, the pulse slow, sometimes as low as fifty or even forty, and vomiting is frequent. In obstructive cases the patient notices a peculiar unrest in the stomach, at times amounting to spasms, especially when complicated with hyperchlorhydria, and foodstuffs taken several days before may be vomited. Frequent vomiting of considerable quantities of bile may occur from some obstruction in the duodenum below the common duct. Various nervous symptoms are also produced; headache and vertigo are common, parasthesia and stupor sometimes occur, and several cases of symptomatic tetanus following gastric dilatation have been reported.

For purposes of treatment it is not sufficient merely to recognize the presence of motor insufficiency, but also to determine whether the insufficiency is due to atony or obstruction, to ascertain, as far as possible, its cause or causes, and the condition of the gastric secretion. Motor insufficiency without dilatation we may consider as atonic in character, but it is not always easy to decide that a dilatation is or is not due to obstruction. The diagnosis must rest on the total symptomatology and the history presented by the patient. As a rule, an extensive dilatation is the combined result of obstruction and atrophy of the muscular lining, though such cases may occur from atrophy alone. A sensation of unrest and cramps in the stomach, especially when active peristaltic movements can be observed over the epigastrium, is a valuable evidence of muscular hypertrophy from obstruction. This obstruction may be a cicatrix from previous ulceration, a simple tumor, or a cancer of the pylorus, to be recognized by a palpable enlargement in the region, and a general symptomatology of malignancy. A chemical analysis of the gastric contents after a test breakfast will usually decide between a simple and a malignant stenosis. Sometimes the obstruction is due to a muscular hypertrophy of the pylorus, and at times is of a temporary nature only, produced by pyloric spasms. Again, the obstruction may be located in the duodenum, consisting of a cicatrix or malignant tumor, or it may be the result of compression from peritoneal adhesions, tumors or a floating kidney, or from twists and traction arising from a displacement, and even from the pressure of a tightly-laced corset. The regurgitation of bile into the stomach from duodenal obstruction has already been referred to.

Among the most frequent causes of atonic dilatation are over-indulgence in eating and drinking, particularly of beer; exhausting diseases, especially when followed by indiscretion in diet; excessive

use of tobacco; nervous dyspepsia; acute or chronic gastritis. Gall stones have also been held responsible for some cases.

In the treatment of the atonic form our object is to improve the nutrition of the patient to the highest point possible consistent with the relief of the stomach from any undue strain. In the obstructive form, on the other hand, the treatment must be directed against the obstruction, and resort to surgery will often be found necessary. In either case, however, it is essential that the diet should be so regulated as to supply a sufficient amount of nutritive material in a readily digestible form and in the smallest bulk. This may be accomplished by giving small meals adapted to the gastric secretion, in a finely divided state, and at short intervals. Where there is only a moderate insufficiency the diet may consist of such easily digestible solids as properly cooked meats and fish, toasted light bread or zwieback, butter, soft boiled eggs, baked apples, green peas, young beans, the tender tips of asparagus, mashed potatoes, cauliflower, rice, crackers, barley, etc., all thoroughly masticated and insalivated, and taken in small quantities every three or four hours. In cases of hyperchlorhydria the animal foodstuffs should preponderate, while in diminished acidity the diet should be principally vegetable. Although all fluids should be reduced to a small amount, a glassful of milk can usually be added with advantage. In severe cases a cupful of sweet milk and one or two zwiebacks every hour or two should constitute the entire diet until improvement is marked. Whenever this is not well tolerated, it is best to suspend all feeding by the stomach for a few days and support the patient with nutrient enemata. These can also be made to supplement oral feeding, when the bodily weight can not otherwise be maintained. The return of the motor power should be encouraged by gradually increasing the diet with the same care as we would observe in the exercise of a patient suffering from dilatation of the heart.

To reduce the pressure upon the larger curvature of the stomach, and to favor an early propulsion of the chyme into the intestine, the patient should be directed to assume the recumbent posture after eating, resting preferably upon the right side. If residue of food is found in the stomach ten hours or more after eating, notwithstanding these dietary regulations, the stomach should be irrigated with lukewarm water at night until free from all decomposing matter, and left empty until morning. This would cleanse it from germs of decomposition and their irritating secretions for a time, and afford it a short period of physiological rest. Medicaments may be added to these douches to enhance their effect. Adding common salt, in the proportion of a teaspoonful to a pint of water, will prove of benefit in cases of hypochlorhydria; while nitrate of silver, one one-thousandth, followed by the saline solution, will afford relief in gastric hypersecretion. Where the thirst is marked much relief can be had from a rectal enema of a pint of water in which half a teaspoonful of salt is dissolved.

For cases of atony apparently of nervous origin, combined with hyperchlorhydria, the use of the galvanic current has proven a valuable adjuvant. Where there is muscular atrophy, with dilatation, the faradic current is preferred.

The so-called "bitter tonics" have long enjoyed a reputation in digestive troubles. It is now known that they have little or no influence upon the gastric secretion, but prove decided stimulants to the gastric peristalsis.

In dilatation due to spasms of the pylorus, giving rise to acute pains, atropia will relieve in doses of three tablets of the 3X, after each meal.

Clinical experience bears abundant testimony to the curative value of homeopathic remedies in motor insufficiency of a mild degree, and even in atonic dilatation before pronounced tissue changes have taken place.

The leading syndrome of insufficiency, viz., gastric distress, eructations and vomiting, is certainly found in the symptomatology of a large number of drugs which, by their cures, have made homeopathy popular long before insufficiency, as a pathological condition, was therapeutically considered. The following remedies I have found most frequently indicated:

Pulsatilla in vomiting of food eaten long before; sensation as of having taken too much food; weight in stomach as from a stone; eructations. The following symptoms under the remedy suggests hypochlorhydria: Aversion to meat, thirstlessness, eructations tasting and smelling like putrid meat. We may infer that its gastric pathology consists of dilatation with lessened secretion due to venous hyperemia or chronic catarrh.

Nux vomica has served me better than any other remedy in motor insufficiency with hyperchlorhydria, which is also well borne out by its symptomatology: tension and fullness of the epigastrium an hour or two after eating, bloatedness, vomiting of food and drink, heartburn, sour eructations, thirst for milk, cramping pains in stomach. The patient is nervous and irritable.

The great hunger and thirst, bloatedness, and general nervous irritability suggest a similar condition for ***nux moschata*** in hysterical women.

Antimonium crudum and ***carbo animalis*** have tasting of food eaten long before.

Lycopodium is indicated by acid eructations, sour taste extending to stomach, causing acrid gnawings; heartburn, aversion to bread, coffee and tobacco; distention and cramp in the stomach, which symptoms also point to hyperchlorhydria.

Anacardium has one symptom characteristic of gastrosuccorrhea viz., "Symptoms disappear during dinner, begin anew after two hours;" but it has repeatedly disappointed me in that affection.

Graphitis, ***carbo vegetabilis*** and ***carbo animalis*** have aversion to meat and longing for acids, which suggest hypochlorhydria. ***Phosphorus***, ***china*** and ***antimonium crudum*** should also be remembered in reduced hydrochloric acid secretion, with motor insufficiency.

Carbolic acid may be thought of in obstructive dilatation with almost constant belching and vomiting of putrid matter.

Hydrastis in vomiting of large quantities of mucus, as in mucous catarrh.

Argentum nitricum has violent belchings. The patient awakens at midnight with oppression at stomach, and vomits; throws up glairy mucus and dark blood. Useful in catarrh or ulceration of stomach, with reduced motor power.

Finally, there remains a certain class of cases, notably of obstructive nature, which, notwithstanding the most intelligent employment of dietetic and medicinal treatment, go on from bad to worse; the dilatation increases, with aggravation of symptoms, and the patient is steadily losing weight. The only hope here, if the patient's strength will permit it, lies in surgery. This aims at the removal of the cause, but when that is found impracticable, much can yet be done for the comfort of the patient and the prolongation of his life by a gastro-enterostomy, offering a ready outlet of the contents of the stomach into the intestine.

Gaulbert Building.

[Written for the MEDICAL BRIEF.]

Advice to Young Mothers.

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We doctors often have an opportunity to give advice to young mothers; we should try to convey the principle involved, and unless this principle is understood and appreciated, there is little hope of success in the carrying out of any instructions.

Perhaps the two most important principles involved in the care of the baby are warmth and regularity, and if the necessity for these are appreciated by the mother, she will have an intelligent basis regarding management in the various stages of the baby's life.

By warmth I do not mean that the baby should be kept in an over-heated condition, but that the proper temperature should be uniformly maintained. At birth the baby meets with a decided change of temperature—a change from 99° F. to about 72° F., so that it needs more warmth than the temperature of the room affords. The baby has not the power of warming itself, so artificial heat must be employed. The addition of extra garments is not sufficient. The best way, perhaps, is by the electric pad. In most homes that is not possible, so we substitute the rubber bag, or bag of heated salt or some material which will retain the

heat. The baby should be surrounded with a temperature of about 85° F. for the first two weeks of life, this temperature being gradually reduced so that by the end of two months it is 72° F. If the baby is at all cold it begins to fret, and when a baby frets, the mother should first suspect cold. She should feel the baby's hands, feet, and the end of its nose, and if these parts are the least bit cold she should apply artificial heat as soon as possible. If there is an open fire, one of the best ways is to bare the baby's feet and toast them in front of the fire; the next best is to take a flannel cloth and heat quickly and apply to the baby's feet. In applying a heated cloth or bag, the mother should test the temperature before using it, so that the baby may not be burned.

Regarding regularity of the care and habits of the baby too much can not be said of its importance. Its first application begins with nursing. It is absolutely necessary for a baby to be nursed regularly. If the mother is careful in this respect for the first three weeks, the habit will be formed so that the baby will not care for food except at the regular times, and the mother will be free to attend to her household duties in between.

The next application of the principle of regularity is in regard to sleep. A baby can be taught to go to sleep in almost any way. I have known babies who had to be sung to sleep; others that had to be rocked to sleep, and others that were held and carried to sleep. I have known babies to sleep in a dark room, others to go to sleep in a lighted room. I knew one baby that was put to sleep by having a music box for its pillow, and the parents had great difficulty in putting it to sleep in any other way. The essential thing is that the baby shall go to sleep in the same way, and in the same place regularly. The easiest way for the mother is the best way for the child. While the baby is very young, the best time for it to be put to sleep is right after nursing, and if it is simply put in its bed in a definite place it will soon learn that that is the time and place for it to go to sleep, and it will go to sleep without singing or rocking, or any frills whatever. Do not allow your friends and relatives to wake the baby to play with it.

The next application of the principle is in regard to the daily bath, and this should always be given at a regular time each day.

It is surprising how little is done toward the regulation of the baby's bowels and urination. Regular habits in regard to the bowels can usually be established in a baby before it is six months old, and in urination by the time it is nine months old. If, when the baby is between two and three months old glycerine suppositories be used, and immediately afterward the child be placed on the chamber it will soon learn what is expected of it, and it will lessen the mother's work materially. By having regular times the child can also be taught in regard to urination.

The child's play times should also be regulated, the best time being when the child wakes from its naps. By being regular the baby will soon learn to expect it, and enjoy the play time more thoroughly. These things will go far toward a normal and healthful development.

805 Kansas Avenue.

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The New Diagnosis, Its Limitations and Its Dangers.

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History and experience teach that whenever in medicine or surgery a new discovery is made or a new diagnostic or therapeutic agent is introduced, its usefulness is overrated and its scope magnified. In surgery, for example, many of us remember the time when such an operation as oöphorectomy was advocated not only for disease of the ovaries, but also for the relief of such conditions as hysteria, insanity and others, with what results is only too well known today. We now hear of operative interference of such maladies as tuberculosis of the lungs, cirrhosis of the liver, and even Bright's disease, diseases always heretofore regarded, and justly so, as the

battleground of the physician; and it cannot be denied that this *furori operandi*, apparently made harmless by the discovery of anesthesia, antisepsis and hemostasis, is sweeping with almost irresistible force over this hemisphere, and that the idea that in the surgeon lies the *ultimum refugium* of all the sick, is becoming all prevalent, and not always to the benefit of the patient. Thus the great good that is undoubtedly accomplished by modern surgery is often opposed by too much enthusiasm and indiscriminate operating.

In medicine, too, the new discoveries in diagnosis as well as in treatment, fruitful as they have been and instrumental in saving life, have led to the neglect and abandonment of older and well tried methods and agents; and in the first enthusiasm aroused by these discoveries, we have lost sight of the fact that our progress has been small indeed. Only last year did we witness the remarkable phenomenon of "intelligent men," as someone called them, going before the Academy of Medicine and raising a warning cry against too much enthusiasm in regard to modern treatment of disease. Not that we deny that the trained nurse is a godsend, not that we are blind to the benefits of a well-ventilated and well-lighted sickroom or the blessings of a soothing drink and refreshing bath; not that we yield to anyone in our appreciation and admiration of the scientific spirit that now pervades the whole practice of medicine, a spirit from which alone true and lasting progress can come; but the queston is not how much comfort, but how much good have all those measures brought about, or more accurately stated, how much has the mortality of certain diseases been reduced thereby? And when we, then, with that question in our mind, investigate the statistics compiled by such men as Osler, Fitz and others, which prove that the mortality of typhoid fever, for instance, is just as great today as it was fifty years ago, and that in spite of nursing, in spite of cold baths, in spite of improved hygienic and scientific medication; when we reflect that the same holds good of pneumonia, the mortality of which seems to-day to be even higher than it was ever before; when we further consider that no less is this true of nearly all so-called infectious diseases, in the face of all these facts are we not justified in asking ourselves the question, Are we on the right road towards curing those diseases? Are we justified in patting ourselves on the back and to make everybody, ourselves included, believe that we are doing so much for our patients, when, if the truth be known, we have to acknowledge that as of old so now it is largely true what Goethe says in Faust:

"We have studied medicine all through and through,
But things still end as God wills and not you."

This friendly criticism is also justified in regard to modern or, as it is sometimes called, the new diagnosis. By this we mean the diagnosis of diseases by laboratory methods, by exploratory operations, as opposed to the diagnosis by clinical and bedside observation, and the study of the history and progress of the disease and the patient. Aptly says John D. Deavor, of Philadelphia, "There has, in the last few years, crept into the profession a tendency to replace the bedside by the laboratory, and substitute the highly magnified and extremely limited field of the microscope for the broader one of the eye of the physician." Theoretically laboratory investigations promise a great deal and are, it must be inferred, of great aid to the physician and surgeon in arriving at a diagnosis in obscure cases. An exploratory laparotomy often reveals conditions which neither sense of touch nor eye could have diagnosed; a chemical analysis of the stomach contents may prove an affection to be comparatively harmless, when the patient's condition and symptoms justly gave rise to serious apprehension. A culture made from a suspicious-looking sore throat may urge the physician on to prompt use of diphtheritic antitoxin, and to inaugurate measures against the further spread of a dangerous disease. A positive Widal test may save your patient from the ever-ready knife of the fearless surgeon, or the presence of a mild leucocytosis, as revealed by microscopic blood count, proves to the physician his case is no longer medical, but should promptly be transferred to the surgeon.

And yet, in spite of all these informations that may be gathered by a properly

performed laboratory investigation, it cannot be denied that the information thus gotten is open to many fallacies; that this method of making a diagnosis has its limitations and even its dangers and that the physician who depends on these means alone is often doing so to the great detriment of his patient.

One of the disadvantages of the new diagnosis is that many, if not most of those investigations, have for one reason or another, to be handed over to an expert other than the physician himself. In that case you have to rely for an accurate result of his investigation not only on his ability, but on his conscientiousness as well. In this connection I remember a case of a brother physician who came here from a distance to be operated on for appendicitis. The day of his arrival at the hospital he was taken with a violent chill. A blood examination, made by an otherwise very able microscopist, brought a report that no plasmodium could be found in the blood, and that the leucocyte count was largely increased; two blood findings which spoke in favor of suppuration, perforation, etc., and immediate operation. Being a friend of the patient, I was called in to see him, and finding the local symptoms so much out of proportion to his general condition, I decided to make a blood examination myself, which resulted in the finding of the plasmodium, and in establishing a diagnosis of malaria. The next day the patient left the hospital, took quinine, got well of his malaria, and returned a few weeks afterward for the operation, which revealed a great many adhesions, as a result of past attacks of appendicitis, but no pus.

Another disadvantage of the new diagnosis is that a negative result in very many instances does not exclude the disease suspected, and even if positive, at best enables the physician to make a diagnosis of the name of the disease, with scarcely any reference to the condition of the patient himself. And yet, none will deny that a diagnosis, to be of any great value, must take both into consideration, and reveal enough of the patient's condition to enable the physician to form a correct and intelligent prognosis, and institute correct treatment.

In this connection it is not my object to cite instances of the superiority of the old over the new. The finding of the tubercle bacillus in the sputum, while it is pretty conclusive evidence of the presence of a tubercular process in the lungs, does not tell you whether your patient has fever and is suffering from mixed infection; it does not tell of the presence or absence of cavities in the lungs, nor of the extent of the pathological process going on within them, any of which is so essential for a correct prognosis and treatment, and cannot be ascertained except by the application of our old well-known methods, inspection, percussion, auscultation, thermometer, etc. And yet I know that it not infrequently happens that we physicians content ourselves with thinking that our patient is suffering from tuberculosis, send him to a so-called climate, only to see him return in an invalid chair or in a coffin. The thermometer, if used at intervals, would have shown that our patient had fever, and needed rest rather than open air exercise. Percussion and auscultation would have shown that he was in an advanced stage of the disease, with cavities in both lungs, tissues breaking down, and that he was not a fit subject to be sent away from his friends and family to the tender mercies of strangers.

A negative Widal test does not mean that we are not dealing with typhoid fever. Unfortunately this test is negative at a stage of the disease when a diagnosis is so much desired to differentiate between typhoid fever and other conditions simulating it, like appendicitis, la grippe, etc., nor is it always present in the weeks following, be the case mild or severe. Nor does a positive reaction mean of necessity and unqualifiedly the presence of typhoid fever, since it may refer to an attack long passed through, or if a proper dilution be not made, only attest to the high agglutinating power of the blood serum. In such instances, and they are many, a study of the clinical symptoms will reveal the true nature of the disease in the great majority of cases.

The same can be said in regard to the clinical examination of stomach contents. An absence of HCl does not mean cancer; if it did a large number of the patients

presenting themselves with stomach complaints, would be suffering from that malady. Nor does the presence of HCl exclude it. I have in mind a case of a man in whom an analysis of the stomach contents showed an increase of HCl; and yet the doctor, depending on his sense of reasoning and on his skill in interpreting clinical symptoms, and his delicate sense of touch, which revealed to him an adherent mass in the region of the stomach, made a diagnosis of cancer, a diagnosis which four months after was confirmed in the *post-mortem* room. That a correct diagnosis in such cases largely influences the prognosis, and is at times, for various reasons, of the utmost importance to the family, is only too evident.

Nor does leucocytosis necessarily mean suppuration or the absence of this phenomenon speak against pus. Take, for instance, a case of appendicitis in which an immediate operation is largely influenced by the presence or absence of pus. By the time the blood is examined, the abscess may be walled off, and the blood count approach the normal. The physician or surgeon relying on this sign of pus may defer operation, only to find one morning his patient in collapse and beyond the reach of the knife, the abscess having broken through into the abdominal cavity. In such case a correct interpretation of the history, the presence of exquisite tenderness on palpation, a study of the temperature and pulse, and the general appearance of the patient would have proved much more reliable guides than the blood count, and might have saved the patient's life and the doctor's reputation.

The pathologic, *i. e.*, the microscopic examination of tissues and tumors, is another instance of the limitations of this new diagnosis. In this connection I might quote with profit the case of Emperor Frederic of Germany, who was suffering from cancer of the larynx. No less an expert than the great Virchow himself failed to find cancer cells in the portion of the tissues that was snipped off the growth and sent to him for microscopic examination; and yet the physicians in the case relying on their clinical experience and evidence, insisted on their diagnosis of cancer, the justification of which became only too evident by the tragic and early death of the illustrious patient. Only two weeks ago I had a similar experience, when I was asked to look at sections made from a tumor of a tongue. I could see not the slightest evidence of a cancerous process, and yet the tongue had been removed by the surgeon on clinical evidence only, and without waiting for the microscopic findings, fortunately for the patient, because the section had been made from the non-cancerous portion of the tumor. A subsequent examination of another portion showed only too plainly the nature of the disease.

But the new diagnosis has not only its limitations, but its dangers as well. This is especially well shown in the diagnosis of surgical diseases by exploratory incision or confirmatory exploration. There is no question but that such a diagnosis is necessary in some few cases. On the other hand it can not be denied by any one that it is too often resorted to, and in cases in which a correct diagnosis could have been arrived at by ordinary clinical methods and observation. A diagnosis by exploratory incision is not a diagnosis in the best sense of the term, nor is a surgeon who largely depends on it, and knows not what he is going for when he opens the abdomen, a good surgeon, no matter how skillfully he may wield the knife. He, of course, reasons that though his exploratory incision proves fruitless on account of incurable lesions, the patient is no worse off than before the operation. Unfortunately, however, under such circumstances, a not infrequent result of the operation is the death of the patient somewhat earlier, and with more suffering to mind and body than if spared the surgeon's aid. Only recently a case of this kind came under my observation where an eploratory incision was done for a mass that developed in a woman of forty-five, in the region of the gall bladder. The mass proved to be a carcinoma of the liver. The woman died a very few weeks after the operation, it being evident that the operation hastened the growth of the cancer and shortened the life of the patient, without having lessened her suffering in the least.

Exploratory laparotomies, whether by advice of the physician or surgeon, or

urgency of the patient, are only too frequent; they are not without considerable danger, and often disclose conditions which could have been revealed without an operation. Not infrequently they are undertaken without sufficient forethought; they tend to make the physician superficial in observation, since the diagnosis is to be made definitely by means of the operation. An incision should not be made for diagnosis simply, but always for the purpose of curing disease and relieving suffering.

In medicine then the diagnosis of disease by the new, or laboratory method, is often fraught with a great deal of danger, as some of my previous statements have indicated. The very limitation of this method also constitutes its dangers. I have in mind a case of diphtheria in which a culture was made and pronounced by the Board of Health to be non-diphtheritic. The doctor in the case, relying on this diagnosis, failed to inject diphtheretic anti-toxin, and the child promptly died. Many similar cases could be mentioned in support of my view that this new diagnosis may be, and often is, a source of danger to the patient; that life is often shortened and jeopardized by too great reliance on it on the one hand, and neglect of clinical symptoms on the other.

But the greatest danger, as I take it, arises for the physician himself, especially the younger members of our profession, who fresh from college or laboratory, are attracted by the great fascination that lies in that kind of work, who practice it almost to the exclusion of clinical methods. The sense of smell, by which older and more experienced clinicians can almost instantaneously diagnose certain diseases, is becoming obsolete. I confess that I, myself, when listening to older physicians' statements that they can detect the characteristic odor of certain diseases, often feel chagrined and mortified that I am unable to do so. The eye, which is so important a factor in the detection of certain disease symptoms, and often is sufficient to make a diagnosis, is losing its sharp vision. The use of the tactile sense, so indispensable in percussion, can not distinguish, between the different varieties, nor appreciate the feeling of lesser or greater resistance imparted to the touching finger. The deductive and inductive method of diagnosis and weighing of clinical evidence is becoming a lost art; in fact, all the methods so well established by our greatest clinicians, and by which they arrived at correct diagnosis without microscope or laboratory examination, are in danger of falling into disuse, to the great disadvantage of the physician, and to the detriment of the patient. A combination of the two great factors, clinical investigation and laboratory examination, will lead to ideal results, and will make better diagnosticians of us, and will tend to more correct diagnosis, intelligent prognosis and successful treatment.

Rialto Building.

[Written for the MEDICAL BRIEF.]

Some Things Which Should be Prevented.

BY MATHEW R. MITCHELL, A. B., M. D.,
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It is an oft-repeated saying by the lay element, and even by some members of the medical profession, that pathological complications incident to, and as a sequel to the child-bearing process, are more common in late years than formerly. Perhaps our line of reasoning would seem to justify the truthfulness of the assertion. If we consider the inevitable effect of some of the customs of our modern civilization as to the adolescent and functionating periods of the life of the woman of to-day, to-wit., the methods of dress in relation to protection, comfort, and to complete normal physical development, we will find what is to some extent an etiological factor.

The confinement and physical inactivity attendant upon a more general and extended mental education may in some instances be responsible.

A much larger percentage of females of youthful and mature life are in the present age engaged in the factory, at the counter, and at the desk, on account of which the fullest development of the reproductive structures are often embarrassed and impaired.

Again the prevalent and vastly increasing custom of employing means for the prevention of fecundation, and the destruction of the product of fecundation, is doing much to imperil one of the Heaven-directed missions of womanhood, and leaving in its trail the wreck of many a prospectively useful life and happy home. This cause alone is to-day materially lessening the average expectancy of the life of womanhood.

Again, another line of reasoning will show that a preponderance of ills and perils of the child-bearing period, at the present day, over that of the mothers of the past, is more apparent than real. This is evidently true from the fact that many of the pathological lesions of the child-bearing woman of the past were either overlooked from a lack of care, or attributable to some other cause and condition, from mistaken diagnosis.

There is a feeling entertained by a large proportion of the people, and by many practitioners as well, that a large number of cases of pregnancy and childbirth will take care of themselves. It is true, however, that but a small number of child-bearing women do not encounter some new peril during the ordeal of gestation, of labor, or of the puerperium. Hence the necessity for timely, intelligent and skillful care in every case. Systemic dyscrasia would be often unheard of, the common dread of motherhood would be greatly lessened, suffering would be palliated or relieved.

A thorough diagnosis should be made, not only of the condition of the mother in labor, but as to the condition, presentation, and position of the fetus.

Skillful manipulation will often prevent a laceration.

A uniform critical examination will discover a tear, and when found it should be promptly repaired.

The strictest care in timely and thorough removal of the secundines, particularly in abortions and premature labor is imperative always.

The lacteal function should not be regarded as out of the line of the attending accoucheur to prevent complications.

Finally, if every case of child-bearing could be placed under a merited skillful and judicious management from the period of fecundation to the termination of lactation, surgery would be deprived of much of its records, and the wail of suffering often unheard.

931 North Van Buren Street.

[Written for the MEDICAL BRIEF.]

The Radical Treatment of Inguinal Hernia.

BY ALFRED DE ROULET, B. S., M. D.,

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There is probably no one condition for the relief of which a greater variety of measures have been devised and advocated than for inguinal hernia.

In the days when the radical operation was inevitably accompanied by grave danger to life, it was but natural that much time and thought should be expended in the development of lines of treatment which would relieve the hernia, to a greater or less extent, without imperiling the patient's life. At the present time, when modern surgery has robbed the operation of danger, the inefficient methods and the makeshifts of a former day are rapidly being abandoned.

Trusses are still used to a certain extent, but as they are only permissible for the retention of small, reducible and reduced hernias, the class which may be most certainly and most safely cured by operation, and are worse than useless in large or irreducible hernias, where operation is comparatively dangerous, their field of usefulness is limited, and their value questionable.

In adults a truss is never curative. In children, cases are occasionally reported where the hernia has disappeared after long application of the truss. Until comparatively recent years it was customary on the part of many surgeons to advise trusses for children and operation for adults, but the weight of opinion now seems to favor operation as the best treatment in all cases.

The injection treatment is only applicable to small, reducible hernias after reduction, and to properly inject a hernia requires greater skill on the part of the

operator, involves greater danger to the patient, and with less certainty of an ultimate good result than does the radical operation. Consequently, this procedure has been generally abandoned by reputable medical men, although it is still em-

FIG. 1. Skin and Superficial Fascia Divided and Plap Turned Back.

ployed, to a certain extent, by the irregular "specialists."

Of the various operations employed, the Bassini, the Halsted, the Halsted-Bloodgood, and the Ferguson are the most popular in this country. As I much prefer the Ferguson operation, I will not attempt any discussion of the other methods, inasmuch as they are rather fully described in all the modern text-books on surgery.

The technique of the operation is simple, the normal anatomical relations of the parts are not appreciably disturbed, and the ultimate results are all that could be desired.

The patient having been prepared for operation in the usual manner, the bowels emptied, and the field of operation shaved and sterilized, a curved incision, from four to six inches long is made, beginning at a point slightly above the junction of the middle and outer thirds of Poupart's ligament, and arching over the inguinal canal, and ending at the pubic spine. This incision divides the skin, superficial fascia, and fat down to the aponeurosis of the external oblique muscle. This cutaneous flap should be separated from the underlying tissues down to Poupart's ligament, and turned back. (Fig. 1.) This exposes the aponeurosis of the external oblique muscle, and the pillars of the external inguinal ring through which the hernial sac and the spermatic cord emerges. Any bleeding points are caught with artery forceps, but are not ligated, as bleeding ceases spontaneously after a few moments compression.

A grooved director is now introduced into the external ring and pushed upward and outward beneath the aponeurosis to a point slightly beyond the location of the internal inguinal ring (half an inch above the middle of Poupart's ligament), and the tissues divided. (Fig. 2.) The split edges of the aponeurosis are caught with artery forceps, or hooks, and separated by blunt dissection from the subjacent tissues. Particles of fat, loose connective tissue, and cremasteric muscle

FIG. 2. External Oblique Divided and Contents of Inguinal Canal Exposed.

should be carefully removed. The inguinal canal, with its contents, the hernial sac and the spermatic cord, is fully exposed. The free edge of the internal oblique is seen arching inward over the hernial sac, while behind it blends with

the transversalis to form the conjoined tendon, a strong, resistant band, which descends behind the sac, where it is attached to the crest of the pubis.

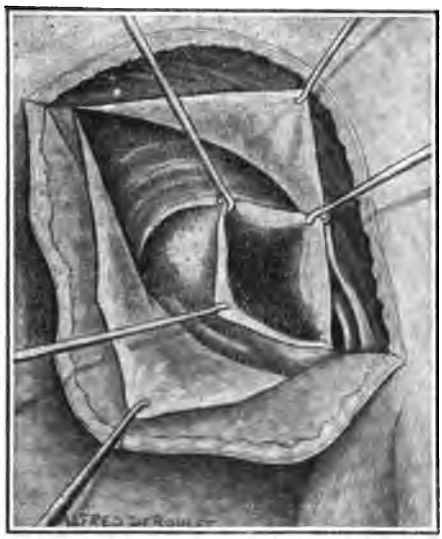

FIG. 3. Hernial Sac Opened to Facilitate Reduction of Contents.

Except in irreducible hernias, or when the patient is straining, the hernial sac is often empty, and at times is recognized with considerable difficulty. Formed of peritoneum and subperitoneal connective tissue, it is ordinarily moderately thick, and has a peculiar glistening, aponeurotic appearance, but in some cases is so attenuated as to be almost indistinguishable.

In dissecting out the hernial sac, separation of the upper portion may often be facilitated by opening the sac (Fig. 3) and reducing its contents. In incising the sac, where the contents are adherent or when the hernia is strangulated and considerable distention is present, great care should be taken to avoid injuring the hernial contents. If omental adhesions are found the omentum is gently drawn down as far as it will come without force, the vessels ligated, and the omentum divided below the ligature, and the stump replaced in the abdominal cavity. Should the bowel be adherent, if the adhesions are neither very firm nor extensive, they may be cautiously broken up. Should they be so firm as to render this procedure dangerous, it is best to trim out the adherent parts of the sac and leave them attached to the bowel when it is returned to the abdomen.

At times the cord is closely attached to the sac and much patience is required to separate it, but with care this may be accomplished by breaking up the connective tissue attachments with the fingers, and snipping with the scissors any specially resistant bands which may be encountered. In isolating the cord great care should be taken to avoid injuring the vas deferens, a structure easily recognized by its hard, cord-like consistency. In separating the cord there may be brisk hemorrhage from the pampiniform plexus of veins, but a few moments' compression with the artery forceps is usually sufficient to control the bleeding.

The sac having been entirely freed to a point just within the abdominal cavity, a finger should be introduced well up into the mouth of the sac to make sure that it is entirely free from intestinal or omental contents, and with the finger still in the sac, a catgut ligature is thrown around the neck of the sac, as high up as possible, and tied firmly. As the liga-

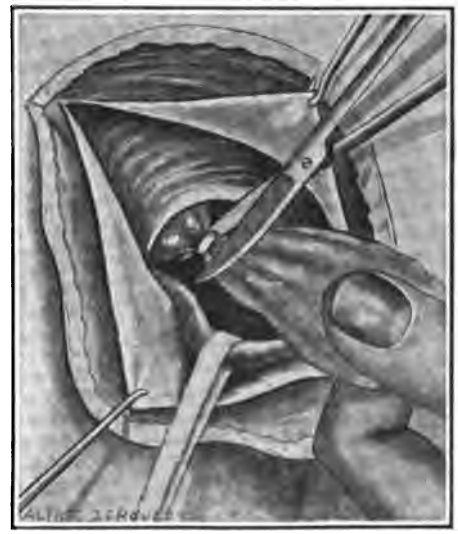

FIG. 4. Ligation and Excision of Hernial Sac, the Spermatic Cord Being Held Aside with Gauze Retractor.

ture is drawn tight it should be felt to slip over the end of the finger. When the sac is large it is often advisable to transfix it with needle carrying a double liga-

ture, and tie in sections to prevent possible slipping. The ends of the ligature should be left long and used as retractors until the sac has been cut away, the line of division being a quarter of an inch below the ligature. After carefully in-

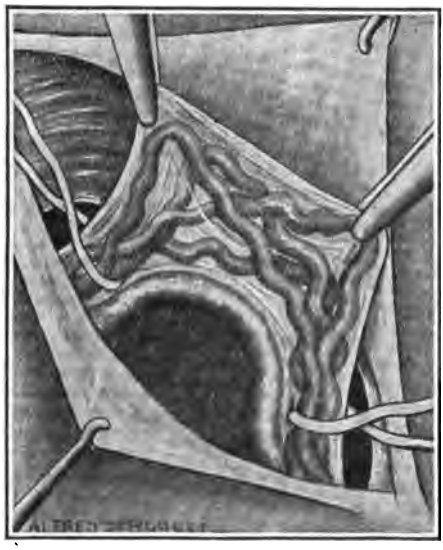

FIG. 5. Isolating Vas Deferens and Its Immediate Vessels, and Ligating Accompanying Venous Plexus.

specting the stump to make sure that all bleeding points are controlled, the long ends of the ligature are cut, when the natural elasticity of the peritoneum will cause it to retract into the abdominal cavity.

The sac being disposed of, attention may now be turned to the cord, and on the proper handling of this structure the success of the operation, in a great measure, depends. The vas deferens should be carefully isolated from its accompanying mass of veins, and all but one or two of the latter excised (Fig. 5). This materially reduces the size of the cord and is not accompanied by any bad results. Theoretically, testicular atrophy is to be feared, but as I have never yet seen this complication, even in cases where the entire mass of spermatic veins was removed, I am inclined to consider this danger largely a matter of the imagination.

The cord having been stripped and the inguinal canal thoroughly cleared of fat, connective tissue, etc., the free edge of the internal oblique and transversalis is stitched with a running chromicized catgut suture to the ledge on the inner surface of Poupart's ligament (Fig. 6).

It simplifies the technique somewhat to begin suturing at the external angle of the wound and work toward the pubis. In introducing the sutures through the middle portion of Poupart's ligament there is some slight danger of needling the femoral blood vessels, but this danger should be easily avoided, as it is possible for the suture to take a broad bite of the ligament without introducing the needle deep enough in the tissues to endanger the blood vessels. The innermost sutures must be placed so as to allow the cord to emerge comfortably and without undue compression, but, at the same time, to allow no undue separation of the edges of the external oblique and Poupart's ligament. It has been my practice for some time past to place a grooved director, or the closed blades of a Kocker's artery forceps, alongside the cord while placing the last stitch, and removing it

FIG. 6. Stitching Internal Oblique Muscle to Poupart's Ligament.

after the stitch is tightened. Next, the edges of the divided aponeurosis of the external oblique are united with a running suture (Fig.7), the first stitch being inserted at the inner angle of the wound. The skin incision is closed with a contin-

uous catgut suture (Fig. 8), or if preferred, a silver wire or silkworm-gut subcuticular suture may be employed. Drain-

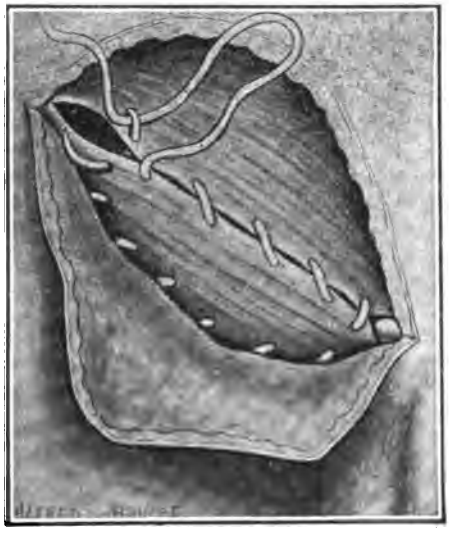

FIG. 7. Closing Incision in External Oblique.

age is unnecessary, except, possibly, in some cases of strangulated hernia.

The wound is dressed with a few layers of gauze moistened with a one to ten-thousand bichloride solution, covered

FIG. 8. Skin Incision Closed.

with dry cotton, and the whole dressing held in place with a broad iliocrural bandage. (Fig. 8, page 959, MEDICAL BRIEF, December, 1905.)

For the first two or three days after the operation it is well to keep the patient on his back, with a small sand bag resting immediately over the wound, to prevent the possibility of oozing.

Unless the patient complains of pain, develops a temperature of over 100° F., or wound secretions show through the bandage, the dressing should not be disturbed for ten days. Frequent changes do no good, but, rather, delay healing, and increase the possibilities of infection.

If, at the end of ten days, the wound has healed satisfactorily, the patient should be allowed to sit up for a few hours each day, but should not be allowed to leave his room before the fourteenth day after the operation. Heavy manual labor is not advisable before ten or twelve weeks.

After a radical operation for inguinal hernia a truss should not be used, as its problematic value in supporting the parts is more than counterbalanced by its injurious effects in the production of pressure atrophy.

In operating on a woman for inguinal hernia, the technique is much easier than in a man, as all trouble with the spermatic cord is avoided. The round ligament may be entirely disregarded. If it is left behind, it may be safely transfixed by the sutures; if it is adherent to the sac, it may be excised, and the patient be none the worse for its absence.

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[Written for the MEDICAL BRIEF.]

A Scientific Torture Chamber.

BY DR. A. ROSE,
New York City.

Medicine has its fashions. We have had the fashion of washing out the stomach. For a time everybody who had dyspeptic symptoms of any description was considered a proper subject for so-called lavage, and many physicians in large cities who had acquired a certain skill never went on their rounds without carrying the stomach tube and the funnel along; patients, even, were instructed so that they could manipulate the tube themselves as a daily morning exercise. Finally, the profession became convinced

and the public also that a great deal too much lavage was done, and proper indications for this method of therapy were established. It was found serviceable in a limited number of gastric conditions.

Now we have the fashion of laboratory, or, rather, too much laboratory, treatment. Notwithstanding that clinical symptoms alone might be sufficient, in certain cases, the chemical analysis of the contents of the stomach is made for diagnostic purposes, and the treatment is instituted according to laboratory dictation. Nothing is to be said against the chemical examination of the contents of the stomach in case the clinical symptoms alone do not warrant an exact diagnosis, but the fact is that this chemical analysis is sometimes superfluous, and when considered alone, without due consideration of clinical symptoms, it may be misleading.

For a number of years I have been demonstrating that mechanical conditions play a most important part in gastric affections. The abdominal muscles have the function to keep the abdominal organs in their physiological position, to control abdominal circulation, innervation and secretion. When the abdominal muscles become relaxed the abdominal organs sink down and anomalies of secretion, especially of stomach secretion, may occur, either too much acidity or deficiency of acid. Supporting the relaxed abdominal wall should, in many instances, be the essential part of treatment in order to relieve ptosis and anomalies of secretion in the stomach. However, even before the relations of atonia gastrica to stomach disorders were pointed out, many physicians had come to the conclusion that, in case of deficiency the administration of muriatic acid—by the way a very good Latin name which is now out of fashion, since it is considered more stylish to use the half Greek and half Latin term, hydrochloric acid—was often illusory; that a better method would be to give tonics or apply tonics in the shape of electricity, massage, gymnastics, etc., in order to induce the gastric gland to renewed activity, and if such tonic treatment did not avail, to leave the stomach without medication and rely on intestinal digestion.

Professor Pawlow, of St. Petersburg, Russia, who commands a great reputation among modern physiologists as special experimenter in the field of digestive organs, is of the opinion that real gastric juice is to be preferred to muriatic acid, with or without the gastric ferments, and he conducts a laboratory in St. Petersburg, where he has established a factory to supply the market with natural gastric juice, taken from dogs. In his factory of normal gastric juice he has exclusively large dogs, weighing about forty to sixty pounds. In a row on a long table there are six large dogs, imprisoned in crates. Each dog has a stomach fistula, and the esophagus has an opening cut in two about the middle of the neck.

The dogs swallow with avidity pieces of meat placed before them in basins, but the esophagus being cut, the meat falls back into the basin, to be swallowed over and over again. Simultaneously the fistula in the stomach yields abundant quantities of an acid, limpid, gastric juice, of which these "factory dogs" produce three-quarters to one litre each in the course of one forenoon. This juice is conducted through a Chamberlain filter, and now forms a regular article of commerce under the caption of "Natural Gastric Juice."

The physiological experiment upon which this wholesale manufactory is based, is as follows:

The esophagus of the dog having been cut in two, the mucous membrane of the stomach is irritated by the mechanical touch of a glass rod, a goosequill or the mere finger, but the resulting secretion is merely a slightly alkaline mucus, may the stomach be maltreated ever so long. *Mechanical irritation of the stomach does not produce gastric juice.* Then the animal is fed, the morsels, of course, falling out again through the severed esophagus, and never reaching the stomach. After a lapse of five or six minutes there will be a proper secretion of a limpid gastric juice, containing 0.5 to 0.6 per cent of hydrochloric acid. But it is not even necessary to let the dog chew the meat; the fact of his merely seeing the meat itself or the cutting of it on a side table is sufficient to incite the production of juice after the same lapse of time. "Psychic Gastric Juice" or "Appetite Juice," is the

name by which Pawlow designates the product gained at the beginning of the feeding. To effect this phenomenon, an exceedingly complicated mechanism is required, making a nervous connection between the higher mental organs and the stomach, which is probably referable to the existence of a power of imagination in the psyche of the animal. The centrifugal course of conduction of this system is formed by the nervous vagus, after the severance of which the psychic secretion of juice is inhibited. An exceedingly sorry spectacle is presented by those dogs, which had both nervi vagi cut, and were, therefore, entirely minus psychic gastric juice. They perish sooner than if they were starved; the food rots in their stomach. Pawlow takes pride in the fact that, by the use of meat broth he is able to keep his dogs alive longer than can the rest of the "investigators." And the scientific import of these cruel experiments? It is hopelessly small, and, indeed, misleading. But the reputation of medical science is very, very seriously damaged by this scientific torture of animals.

Dr. Rollin reports in the *Therapie der Gegenwart* his experiences with ten patients who had been treated with dog's gastric juice. Most of the cases were gastritis, with dyspepsia in consequence of insufficient acidity of the stomach. The dogs' gastric juice for the treatment of these cases had been obtained from Pawlow's Institute, in St. Petersburg, a French preparation having failed to give satisfaction. It proved a good stomach-strengthening remedy, superior to pure hydrochloric acid, but its administration was not attended with permanent results.

[Written for the MEDICAL BRIEF.]

Boundary Lines in Diseases.

BY J. D. HARRIGAN, M. D.,
New York City.

In our study of the disturbances that from time to time occur in the human economy and that constitute what are known to us as departures from that condition of the body which we call "health," and which have become recognized universally by the term "disease," certain groups of symptoms are found affecting almost simultaneously various individuals over wide expanses of territory, and have become known to us as epidemic diseases.

The importance of grouping each set of symptoms and affixing names to the different groups for the purpose of discrimination, and suggestive of the underlying pathological changes in operation, as likewise indicating thereby the anatomical structures and physiological activities involved, cannot be overestimated.

But to so isolate each group by drawing the sharpest lines of distinction between them as is done at the present day, without taking into account gradations from one to another is to invite failure in our attempts to solve their etiology, is apt to confuse our ideas with regard to the essentials of disease and render futile our efforts to relieve the conditions.

Were the fact always kept in mind that the boundary lines between the different groups of symptoms are simply artificial, considerably more accurate realization of the relationship existing between the different groups would be experienced.

The broad domain of disease might be likened to a wide expanse of country, divided and sub-divided into States and Territories similar to our own, each division and sub-division being indicated by sharply-drawn boundary lines.

These boundary lines that mankind has seen fit to draw from time to time on maps representing the earth's surface are no doubt necessary and useful, but they are only artificial, not real. The earth itself remains the same, its aspect changing only by slow degrees as you pass from one latitude to another. No distinct boundary lines mark these changing aspects. The frigid zone glides into the temperate and the latter into the torrid with no perceptible, rigid abruptness. The changes in the earth's aspect bear no relationship to the artificial changes due to man, and the only boundary lines are the artificial ones, the political ones made by man.

You pass from New York into Connecticut without appreciating any sudden change in the scenery.

Certainly there is nothing in the conformation of the country to arrest your attention and compel you to realize that you are in another State.

It is exactly the same with epidemic disease.

It is a broad domain with artificial divisions and sub-divisions mapped out on paper by man, having boundary lines which are seemingly drawn more and more rigidly taut from time to time.

The slightest deviation from previously recorded symptoms in a certain group may occur, and immediately a great discovery is heralded, new boundary lines are drawn, and a brand new disease is inflicted on suffering humanity.

Incidentally with each new "disease" the most strenuous efforts are put forth to discover a brand new cause for its existence.

And that is where the trouble and confusion come in.

It is just as absurd to my mind to search for a new cause for every shade of disease as it would be to expect to find a distinct and different cause for every shade of color in the rainbow.

It is far more logical and reasonable to expect to find wide variations in disease owing to innumerable extrinsic circumstances and the disease itself depending upon one general cause than it is to grope around for a cause for each of the variations.

The so-called idiosyncrasies of some persons certainly must have some effect in creating a difference in symptoms, and hence in changing the aspect of disease.

These idiosyncrasies, called by their right name, would mean the chemical and electro-chemical differences in constitution that we, all of us, have very frequently without knowing it.

Differences in environment must also enter as a factor in changing the entire aspect of disease. The chemical constituents of the air of a cellar must certainly make some difference in disease as compared with the air of a sick room in a mansion.

Coming to a consideration of localities, it is inconceivable that a disease in a northern temperate climate would remain the same as in the torrid tropics, where all nature seems to take on a vigor of growth far above that of the temperate zones.

Isn't it reasonable to consider that a person attacked with a slight fever up North would have all of his symptoms aggravated if suddenly transported South?

Take, for example, influenza.

Anyone with a wide experience with this disease knows how protean are its changes.

From the simple coryza and sore throat, perhaps, its changes are rung on all of the organs in the body. Take a severe case of this disease, one in which we find the liver, kidneys, spleen involved, as well as the bronchial and cerebrum.

Suppose this case were transported instantaneously to Havana, what would be the result? Does any one doubt but that every one of the symptoms would be aggravated? That every one of the organs involved would be involved more seriously? Some of the organs might be affected more than others, thus producing quite a changed aspect in the disease. Would this mean that we must draw a sharp boundary line and call it a new disease and christen it accordingly? The chemical constituents of the atmosphere, as likewise chemical, gaseous exhalations from the soil and plant-life must act as modifying agents.

But this does not mean to say that with every modification we are justified in considering the combination set up as a new disease. Far less are we justified in searching for a new cause for each new combination of symptoms. We may attempt to discover the factor or factors entering into each case to cause the modification in symptoms, but in doing this we should not lose sight of the original essential features of the case.

Because the African negro has black skin and curly hair is no reason for considering him outside the pale of mankind. The same holds good with regard to the almond-eyed celestial with his yellow skin, as likewise the red-skinned Indian. The groundwork of these groups of physiological activities is the same, and we call each group a man, no matter on what part of the globe he may flourish or merely exist. On a similar line of rea-

soning we are thoroughly justified in expecting to find a basic groundwork as a unit for investigation purposes of all the groups of pathological processes that sweep in great waves, as it were, from time to time over the world.

The splitting of hairs over the different groups of symptoms representing the different pathological processes in action, at the same time forgetting that the groundwork of all the processes remains essentially the same, seems to me unscientific.

The absurdity of considering, for example, cholerine as a distinct disease from cholera, simply because in the one case the patient gets better and in the other he dies, is a striking example of how the essential basic groundwork of epidemic diseases is forgotten, and the accidentals pertaining to them given all prominence. With all due respect to the drawing of fine distinctions and the setting up of boundary lines in disease, the utility of which is certainly conceded, we contend that it is manifestly wrong to permit the accidentals to overrule the essentials, thereby creating innumerable diseases where, perhaps, the essentials would indicate one, and thus, worst of all, confusing utterly our research into the etiology of disease.

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[Written for the MEDICAL BRIEF.]

Physiological Therapeutics Indicate The Use of Oils Injected Subcutaneously as a Cure for Consumption.

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Animal fats and oils of vegetable cells as producers of potential energy and heat are the most powerful of any substance used as food. They also serve to lessen and modify the metabolism, destruction, waste of proteids, and other tissue-forming foods. Their digestion is largely mechanical, being absorbed in a solid or emulsified form, there being various views held as to fat digestion, and is therefore not exactly understood. Recent works would seem to point to the fact that oil is absorbed by the villi of the small intestine by osmosis through the epithelial cells, a straining, as it were, and then absorption by the white blood cells which are in waiting to receive the oils, the plasma of the blood varying as to the amount of oil contained from 0.2 to 0.5, or even 1 per cent of fat, and sometimes contains so much of the fatty chyle as to be milky. After the absorption of fats from the intestine they are used in the repair of tissue, and to give energy to the body, or it may be deposited as adipose tissue. If the body is diseased, as with tubercular conditions, we know that more fats are necessary to replace the diseased tissues; on the other hand, where all tissues are healthy, the oil or fat, if absorbed, would be more likely to be deposited as adipose tissue.

The similarity between the digestion of oil from the alimentary canal and digestion or assimilation of oils subcutaneously injected, will readily be seen. Instead of the fats being split into oils in the intestine, strained through the villi and taken up by the blood cells, we inject under the skin a fine grade of oil, pure and sterilized, being so pure and free that it needs no straining. Under the skin it is absorbed by the blood cells in their fight for the health of the body, using the nutriment to rebuild tissues. Fat food is either stored up in the body as fat, or burned to furnish heat and energy.

Water, ash or mineral ingredients, fat, and nitrogenous matter constitute mainly the four classes of substance of the body. Water constitutes from forty to sixty per cent of the body, ash from two to five per cent of the weight of the body and occurs principally in the bones. The fat varies greatly with the condition of the person and the habit of diet, but seldom falls below six per cent or rises above thirty per cent. The nitrogeneous material or protein includes all of the matter containing nitrogen, and is the element which constitutes about four-fifths of the atmosphere. It would therefore seem that this latter material would be largely absorbed from our breathing and be converted and assimilated by the blood in case of need in the formation of the tissues of the body or in the conversion and transformation of other tissues.

The sources of heat and energy in man are the protein, carbohydrate, and fat foods, and the fat and protein of the body, for they, too, are used in place of food in cases of necessity.

Fat, for producing heat and energy, is nearly two and a half times as valuable as that of carbohydrate or protein food.

The primary functions of food are to repair the waste of the body, which may be brought about from action or disease, to promote growth, and to furnish heat and energy.

ADIPOSE TISSUE HAS NOT RECEIVED THE STUDY FROM PHYSIOLOGISTS IT MERITS.

The physiological use of the adipose tissue of the body and its relation to the prevention of disease has not received the study which it merits, though it is only possible for me to direct the attention of physiologists who should make more detailed studies as to the relation of adipose tissue, to other more vital tissues of the body than is given in any of the text books on physiology. At the present time it requires long and patient search of special articles on this subject mostly by foreign physiologists, and then it is only possible to glean a few facts from each article, there being no thorough and complete study as a whole on this subject. After reviewing all of the literature on the subject of adipose tissue, obesity, *et hoc genus omne*, and from careful observations of people and disease, I am able to draw the following conclusions as set forth in this paper.

Too much attention is given to the nonsense that fat is a disease. Our most conscientious physicians who make a specialty of reducing obesity agree that it is not a disease until it reaches such proportions as to interfere with the circulation and other organs, and then, in the true sense of the word, is not a disease, and that in the reduction of obesity it must be done slowly and with great care lest harmful results follow, and as a rule is done to please the patient's esthetic sense rather than for health.

SIMPLEST USE TO PROTECT THE VITALITY OF TISSUES AND THUS ENABLE THEM TO THROW OFF DISEASE.

That adipose tissue is useful and that one of its functions is the prevention of disease can not be denied by any one who will give it even brief consideration. Fat, by covering the body, protects it from cold and the effects of cold, which are many. To illustrate this, we may refer to the incident related by that eminent physician, T. Lauder Brunton, M. D., F. R. S., published in the *Practitioner*, of London, 1878, of the then champion swimmer of England, Johnson, who attempted to swim the English Channel, but his strength failed, and when he was lifted into the boat by those who accompanied him, his limbs hung utterly powerless, which seemed to be due not so much from real muscular exhaustion, but to the effect of cold. Later the same feat was tried by Captain Welch, and many predicted that he would fail, not on account of lack of physical endurance, but on account of cold. Welch was fat; he succeeded in the attempt, and Brunton concludes that this was largely due to the thick coat of subcutaneous fat which covered him. When bodily tissue cools down from exposure to cold water or any other influence, we know that the muscles refuse to co-ordinate; the nerves which supply them do not convey the impulses and the muscles will not respond. From this we are to conclude that fat protects the body from exposure, which protection keeps the other tissues from exhaustion, and thus from their own protected vitality they are better able to repair their wastes and throw off disease; but this is the most simple and the least of the physiological uses of adipose tissue.

ADIPOSE TISSUE THE WEALTH OF THE BODY—ITS GREATEST USE BEING TO PREVENT DISEASE, AND SUPPLY NUTRIMENT FOR DISEASED AND FAMISHED TISSUES.

The greater use of adipose tissue is to serve as a supply of nutriment for other more vital tissues of the body, to all of which it is intimately connected. To illustrate this, let us take some of the cases of fasting that have been recorded. Fasting for experimental purposes has been carried on through the lower animals, and, of course, if continued, results in starvation. If all food is withheld, all tissues must yield their fat and other

nutriment to carry on these functions. Adipose tissue yields first and most to co-operate with other more functional vital tissues, and it would, therefore, seem that this tissue was stored up in the body to feed these other tissues in case of need or necessity, as in wasting diseases or in the hibernating animals. In animals which are partly starved there is a large waste of bodily tissue, first principally fat, and then of the glandular organs engaged in metabolic activity, and in these animals, as well as in man, as often observed in fevers after continued partial fasting, there is often loss of appetite and sometimes extreme inanition, which has often resulted fatally, the body becoming so exhausted that food would not be accepted and acted upon by digestion and assimilation. It will readily be seen that there is a resemblance of the effects produced on fasting animals and half-starved fever patients to tubercular sufferers, in that a habit of not eating sufficient is produced, and, as stated before, when they are put on a full diet again they often do not eat a sufficient quantity, like the tubercular patient who unconsciously has left all the fat from his meat, and eats very little butter, oil and cream, and finally, after a term of partial starvation, there results exhaustion and anorexia, and it is very difficult to train these patients back to a proper diet; for this reason, feeding, in some fevers, has been carried on in a more intelligent way than formerly, that convalescence might not be impaired from anorexia and inanition, for it is observed that appetite may become largely a matter of habit. If our patients become used to eating a large amount of fats, butter and oils they will soon learn to like them and see the dependence which their body places upon them.

Experiments show clearly that oils may be digested by the blood and used to supply nutriment, heat and force to the body. It is upon this that I base my claims for a cure of tuberculosis, and from the fact that the cure of consumption must necessarily depend upon a proper supply of nutriment, the disease being primarily one of malnutrition. Again, consumptives suffer so much from loss of appetite, nausea, and, perhaps, nonabsorption, that as a rule they are unable to take sufficient amounts of fat, and so nourish the system as to overcome the disease. Then the injections of oil stimulate all growth and cell activity so as to destroy the disease, and as we shall point out in separate lectures, they meet every indication and pathological condition of the body.

When the body is wasting from disease, fat tissue yields itself first and foremost to supply nutriment for the more vital tissues. For this reason, in a chronic disease like tuberculosis, where most of the fat of the body has been consumed, subcutaneous injections of oil should be instituted to take their place, and to supply the heat, force and tissue-forming material, and to save the waste of other foods which have been eaten, that they may also serve the purpose of nutrition to the highest extent, and overcome the disease.

THEORIES OF IMMUNITY.

Let us consider some of the theories of immunity, and later see how digestion of fats and injections of oil meet these theories, as they do in many particulars.

In all serum therapy in which experiments have been vigorously carried on since Koch, in 1882, published his first article relative to his discovery of the germ, it has been decided that such serums, should such a one be discovered to prevent tuberculosis, will not act so as to destroy the germ directly, but in a secondary way, by stimulating to increased energy the white corpuscles of the blood, or, as Buchner puts it, that, perhaps, in the white corpuscles the defensive power of the blood (alexin) originates, while Metschnikoff believes their action due to increasing phagocytosis. How often the blood in a state of health prevents the growth of disease germs in a similar way, no one would be able to compute, but it is known that even germs of the most severe diseases may be found in the secretions without having excited the disease of which they are characteristic, and it is this power which in itself constitutes immunity.

The lateral chain theory of immunity, formed by Ehrlich, in 1897, has been looked upon as a hypothesis of great value in explaining natural and acquired

immunity, it being based upon the specific action of toxins, a distinct toxin being formed for each substance eliminated from the body, being a bacteriolytic serum stimulated by the presence of one kind of germ or pathological substance, and being devoid of action upon a different variety. Ehrlich also found his lateral chain theory upon the mechanism by which the cells are nourished, this cellular protoplasm being very complex, with many combining functions, or "lateral chains," carried on by "receptors" of various forms, and, according to its peculiar form, is able to secure by attachment the substances called "haptophores," which it can use, and for which it is said to be particularly adapted. The receptors, formed for the purpose of taking up nutritious haptophores, may also take up poisons and destructive haptophores, as of pathological germs which have gained access into the system. Should this be the case, according to the hypothesis, the pathological germs may stop the nutrition of the cell and bring about its destruction; on the other hand, should the pathological substance not attach itself in a quantity sufficient to destroy the cell, it forms new receptors for taking up nutrition, in that its life may be maintained. Through repeated attacks of pathological substances (pathological haptophores), the cell, in order to maintain itself, grows new receptors greatly in excess, which are finally liberated into the plasma, and are capable of uniting with haptophores, either pathological or nutritious, and, being separated from the cell, form products of immunity, and thus animals become immune from certain poisonous and pathological conditions, because their cells either lack the appropriate receptor or possess an unlimited number of them. This hypothesis is accepted as accounting for natural and acquired immunity, study and observation showing that lowered vitality of the individual lowers the immunity. It is interesting to see that this theory has the mechanism of cellular nutrition as its basis.

SUBCUTANEOUS INJECTIONS OF OIL PRODUCE IMMEDIATE GROWTH OF BLOOD CELLS.

An examination of the blood after an injection shows an increased growth of its cellular constituents, both in number and size. This meets the theory of immunity as to phagocytosis; it also can be applied to the theory of immunity devised by Ehrlich, in that oils either assimilated from the intestine or from subcutaneous injection, enter into the circulation. Now, on account of the increased amount of nutrition in the blood, the cells must develop more receptors to receive the nutrition or haptophores, and, on this account, receptors would be as necessary to grow in excess, and thus be greater in number to combat with pathological germs and to supply cell nutrition.

The peculiarities of the body juices of immunized animals, and the formation in them, or presence, of antitoxin, amboceptors, and other antibodies, depend upon the separation of the unnecessary receptors from the excessively stimulated cells, and experiments with the toxin, antitoxin reaction and the amboceptor reaction indicated that these separated receptors are able to continue their combining functions in fluids containing them. The complimentary body, or solvent of foreign and pathological cells, is not accounted for in Ehrlich's theory, and of this we are left in doubt, but is thought to be a property of the blood rather than of an antitoxin injected.

It has not been my intention to claim that oil injected is a true antitoxin against tuberculosis, but that it acts as such in part, according to the theories of immunity, can not be denied, and the digestion of fats and oils by the intestine shows why some people are naturally immune from many diseases, and particularly of the disease tuberculosis. Clinically, it is proven that when fats and oils can be digested by the tubercular patient, that he improves rapidly from the disease; that the people who habitually eat large quantities of fats never have tuberculosis, and if they do occasionally, it is because the fat is not assimilated; and that subcutaneous injections of oil form the most valuable part of the plan of the treatment of tuberculosis, being perhaps as near a specific for the disease as anything is possible to be.

Oils injected into the tissues meet every indication of the disease in a direct physiological manner, incompatable with dis-

ease, by furnishing substances from which the force and heat of the body are derived, and the material which may be assimilated by its tissues and transformed into their own kind, together with other nutriment, absorbed through the process of digestion. Subcutaneous injections of oil also stimulate cell growth through assimilation, and also serve to lessen the waste of substances used as food, that nutrition may be built up to the highest extent, and thus overcome tuberculosis.

Temperament and diathesis are terms which have been used in connection with the disease tuberculosis, indicative of a dynamic character of the organism relative to the individual variations of nutritive activities, and have been used synonomously to an inherited tendency to malnutrition. *We have only to apply this condition as another evidence for the use of oils to be injected subcutaneously as a cure for consumption, for the habit of non-eating and non-digestion of fats may have become established through preceding generations.*

Lung tissue has been placed high in the hierarchy of differentiation of elements necessary for its reproduction, and, as a consequence, lung tissue is healed and replaced by connective tissue, which, during its formation, is but little differentiated from fat tissue, and, in its growth, enjoys a relative and corresponding dependence to the formation of the latter tissue, which repairs the lungs, and contributes by itself, pure and simply, in the formation of a cicatrix, which takes the place of the unregenerated elements of the lung, and this increases its volume and functional activity, while the elements of connective tissue will change from their common origin and assume the habits and tendency of elasticity, etc., of the lung tissue.

The formation of connective tissue being similar to the formation of fat tissue in its early stage, by the subcutaneous injections of oil we increase the nutritive properties of the blood, from which this tissue is necessarily derived, and thus cure the diseased tubercular area.

[Written for the MEDICAL BRIEF.]

Medical Wonders and Medical Blunders—A Story of Facts.

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CHAPTER XXIII.

CONSUMPTION—PREDISPOSITION AND INHERITANCE.

A well-known physician of this city a few weeks ago in discussing the subject of consumption, said that it was the "microbe" and nothing else, and when any one would show him that a child could inherit how to read and write, he would believe that the tendency to consumption could be inherited. In spite of this accepted doctrine I am ready to demonstrate that one of the great medical blunders of this generation is the ignoring, or practically repudiating, the predisposition to consumption. The medical profession admit the predisposition, but in claiming that the "microbe" is the causative factor, misleads the public, and to them appears to deny the vital cornerstone, "the predisposition," as the paramount cause of consumption. Not only must the predisposition to consumption be recognized as the only cause (excepting sporadic cases), but it must be made the leading educational subject; it must be made the leading consideration in our sociology, and must be put into actual practice.

The medical profession by this blunder have diverted the people from the very essence and cream necessary to create and mold healthy beings, and have directed them into a channel that must necessarily, little by little, deteriorate our nation and make people the victims of continual patchwork by physicians, and, in spite of this, die a premature death.

In other words, nothing has done more to increase the tendency and existence of lingering diseases, such as consumption and other constitutional diseases, making life a burden until relieved by death, than the accepted but false doctrine of the germ theory. To deny that the reproductive laws are not in common with every other department of nature, to deny that causation did not govern all productions in regularity and uniformity, both in vegetable, animal and human life,

is to deny every fundamental principle of human or natural science. Bugology or the microbe as a causative factor, denies and belies these very fundamental principles. It is the most injurious humbug and fraud of this or any other age, because the condition (disease) must exist first.

That all the constitutional peculiarities, weaknesses or strong traits in the parents are transmitted to the children in just that ratio of power in which they exist in the parental seed and soil, is as reasonable and as certain as we know the certainty of other laws of nature. Then it must also be true that parents can induce the tendency to various diseases in their children. This, of course, nature abhors. This law of transmission, in a sense, is ordained to secure good products; but if this law is violated, the result must be a poor product. It must be just as natural and as certain to transmit the tendency towards disease as it is to transmit the tendency to a long life, or to transmit likeness, stature or strength. It is as reasonable as it is apparent that consumption runs in families as much as likeness, stature or strength; in other words, we inherit the tendency to those conditions from which consumption results. Consumption itself, however, is *not hereditary*. What is inherited is the small and feeble lungs and the general disproportion in the structure of the body, especially deficient "vital and motive temperaments." This deficiency and disproportion tends to a lack of sufficient nourishing function, and has a tendency to make the brain and nervous system predominant, and together with the lack of "vital and motive temperament," has a tendency to weaken the body. Therefore, he or she can not resist his or her environment, undue exposures, or undue physical efforts, which would not disturb the normal functions in a person whose body is balanced and well proportioned. The former cannot endure the exposures and the usual physical efforts, and, therefore. must obstruct or break down such organs or tissue.

The glandular system being incompetent of performing its full function will clog up and enlarge in size and finally rupture and infect the lungs; or, exposure may congest the lungs, preventing recupération and absorption. This prevents the blood from supplying the proper nourishment to the affected tissue of the lungs, and will sooner or later break down, and we have consumption. Thus we see that consumption of the lungs is always a *secondary* condition and not a primary, and when consumption of the lungs has once taken place a cure is impossible.

The sporadic cases that occur in well-balanced and strong people will be considered later. Any one who has put any study or investigation into the subject of consumption must be stupid if he has not observed that this hereditary tendency and predisposition is the only cause, and that microbes have nothing to do in the causation of the disease. This being true, it is as plain as the noonday sun that we must look to the proper education of the public in the absolute necessity of understanding the creative laws and the proper adaptability of individuals in marriage. Also that they must obey the sexual laws to insure good seed and soil, and thereby endow their children with a hickory or steel constitution, and thus prevent our people from becoming a consumptive race.

Certain organs, such as the brain or muscles, are continually kept in predominant action, due to the present social and economic conditions, and as action always determines structure, disproportion of the body under our present conditions must develop during life to a large degree. To propagate well-balanced children under these circumstances, the proper selection of a partner in marriage must be made one of the prime factors in our life and education, and it must be impressed upon the young and old alike that the selection should be made in accordance with nature's laws of adaptability, balance and proportion.

Our moral and criminal tendencies are governed by the identical same laws. Thus we can see why preaching has had so little effect upon our morals, and that hereditary tendency has much to do with the morals of the people; just as hereditary tendency is the prime cause of consumption in not being unable to resist the usual environments to which man is subjected.

To put the subject in a general statement, it is the disproportion and relation of the different parts and organs of the body. Especially the high or low standard in the composition of the body cells themselves, and the changes produced in these organs and cells after birth by the environment, such as foods, active or sedentary work, altitude, heat and cold, moisture, dryness, etc. All of these external influences have more or less of a beneficial or lowering influence in affecting either the cells themselves or the disproportion of the organs, and, in determining stature of the body.

If care and proper breeding will have a tendency to develop strong bodies and long lives, why in the name of all Jehovah will not poor breeding have a tendency to weaken the body and shorten life? If the former is hereditary, then why not the latter? If strong organs are hereditary, why can not weak organs be hereditary? If a tendency to health and strength is hereditary, why is the tendency to weakness and disease not hereditary? It seems impossible that the medical profession could make such an unmitigated blunder as to make themselves and the people of the world believe that this dreadful destroyer of humanity (consumption) was not a hereditary disease.

Much has been written by able men upon this subject of heredity and transmission. No subject has been so thoroughly dealt with, yet almost completely ignored in a practical sense by the medical profession and the public generally. The obedience of the laws of heredity and transmission is the very pillar and foundation, and gives the direct and only answer to the question, Shall we be a race of physical endurance or a race of pigmies and degenerates, subject to disease and premature death, which all of our big Latin terms and numerous false pretensions, false theories, especially "bugology," cannot remedy? In fact, there is only one remedy, and that is to obey this law of transmission and heredity. To this should be added the amount of improvement that is possible in the proper development after birth. This, however, would be nominal compared with the natural transmission and heredity of a well-balanced body with large and full organs and proper composition.

To illustrate by an extreme example exactly what I mean: The cornstalk will grow up large and tall and die in less than a year, regardless of how many cornstalk doctors are located at the fence corners. The cornstalk has lived out its natural allotted time determined by its peculiar constitution given to it from the seed, soil and environment. But should this cornstalk be affected by the cold weather, it will die just that much sooner than its allotted time inherent in its constitution. In other words, the cornstalk dies of old age in less than a year. Identically so with the human being. Some are born from certain seed and soil and die of old age, so to speak, before they are five years old; some would live to forty, but a cold usually cuts their life short, and they die of consumption at eighteen to thirty years. Man usually dies from such causes as exposure, accident or abuse, which affects some particular local organ or part of the body. This condition is what we call disease, but where the body dies by a gradual and general decline, we call it death from old age.

The lungs are the receiving house through which the power is transmitted that circulates the blood and gives activity, force and life to the body. If these lungs are too small or too weak to supply the power that blood and body requires, they will either have to be put to an extraordinary strain, and thereby suffer from excessive work, or the body must suffer by not receiving the normal amount of (life) force from the air breathed. As the lungs are also an eliminating organ as well as a receiving organ, it must be clear that it would be as deficient in its eliminating function as it is in its receiving or supplying function. This would naturally cause retention of these poisons that should be eliminated, and as it is a general fact that when we have weak and small lungs, we have a similar disproportion of the heart, and especially lymphatic system. It goes without saying that we have many things to consider. The obstruction of the (thoracic mediastinal) glands and their subsequent rupture and infection of the lungs is well

known, so we must have a thorough knowledge and the ability to recognize the meaning of these various disproportions so as to be able to compare, and, in a mathematical sense, so to speak, be able to figure out the answer, or rather the results that are possible in each individual, as no two human beings are exactly alike. It requires mental qualities of analysis of the highest standard, combined with scientific knowledge to deduct the proper conclusion from the various combinations that are possible. Yet all are governed by the same law.

PREMATURE DEATH IS HEREDITARY.

The facts which prove this position are not less numerous or palpable than those just given in proof that the transmission of the tendency to consumption is hereditary. It is an admitted fact that longevity is hereditary. Then if long life is hereditary, why should not a premature death be hereditary? These subjects have been explained by several competent authors, but are soon forgotten, and, therefore, do not become beneficial. These subjects must become an active and essential part of our education, and put to practical application. For instance: A mother may die at thirty of some inherited weakness, and her daughter or son live only just long enough to become a parent, and the third or fourth generation die off in their youth, and all be forgotten; while an old man of eighty, ninety, or one hundred and ten years, is the wonder of all, and his extraordinary age is heralded far and near, yet all around him there is a score or more facts in proof that premature death is as hereditary as that longevity is transmitted. In fact, instances of this truth are too numerous to even require comment. The children of those who die young (except by accident or some violent disease) rarely live to be aged, except where they inherit longevity from some ancestor, or where the death of the parents was caused by accident, imprudent exposure, or hastened by unhealthy climatic conditions or abuse. The truth is too apparent to require argument that the children of those naturally short-lived are usually few and die young. Sickly families usually "run out," whereas the vitality of long-lived families increases the number of their offspring, and insures them a long life.

The miserable physical and social habits of to-day, especially of our women, are enfeebling and burying nearly half of our children, and rendering parents too debilitated and diseased to propagate their race and name. These appalling truths of society can be seen all about us. Do you not know many parents too weakly or sickly to have living children, or at least so feeble that the least adverse exposure or effort will disturb some function which may develop into a fatal disease? Unless we heed the practical warning thus enforced by nature, gradual decline of our race and the increase of constitutional diseases is inevitable, as nature will compromise with no one; we must surrender to her immutable laws. The laws of heredity and transmission must be obeyed, or the penalty will be inflicted. If the medical profession will make the constitution, composition, balance and proportion of the body its fundamental principles in medical education and see that it is practiced by the public, and do away with the rot and slop of the germ theory, contagion theory, vaccination theory, quarantine, fraud and the unnecessary butchering and drugging, it will then deserve and will command the highest respect and esteem from the public. But until the profession will do this, they ought to be ignored socially and professionally, as no organization ever was such a menace and injury to public welfare. But sailing as we do, under the guise of intelligent Christian gentlemen, and the public, being ignorant of the facts, they have not been able to recognize its utter uselessness as now practiced.

Let me right here again call your attention to the first article of this series, where I explained beyond a question of doubt, first, that no impurities can be taken into the system from our surroundings by breathing; and, second, that the air is the dynamo or powerhouse from which the body receives the power that circulates the blood and makes life possible. No one will question that if these two physiological discoveries are true, they overthrow every fundamental prin-

ciple of the art of medicine taught and practiced today, or for centuries past, and lays the foundation for an actual science of medicine. No one need to take my word for it, for any one can verify their truthfulness. Do not these two subjects harmonize splendidly with other demonstrated facts in nature's phenomena? Do they not of themselves prove every contention I make? If these physiological laws are as stated, why has the medical profession the past ten years ignored them? Why has the medical profession not given both themselves and the public the benefit of this valuable knowledge? If my contentions are true, it is the most valuable knowledge for the human race ever discovered, as far as health, life and the treatment of disease is concerned. Will some one please answer these important questions for the benefit of an anxious and confiding public?

A FEW INDICATIONS OF LONGEVITY.

When in the future men will have the courage to break away from the present system of medical graft and determine to substitute in its place "medical science," it will be found that many well-known and demonstrated *facts*, that are now completely ignored and even ridiculed by the medical profession, will then become the very foundation and pillars upon which medical science will be built. This foundation will consist in recognizing *predisposition*, *inheritance*, and the proper combination of the three temperaments designated the *mental*, *motive* and *vital*, and in making them the main platform for both medical and public education, and thus make man to live a long life and enjoy good health in the environment in which he lives.

The lesson I wish to emphasize is that to judge correctly of one's health and prospects of a long life, we must take into account as the most important factor his natural constitutional condition, and all things equal the length of his life will be just in proportion as he comes up to a high-established standard. This standard must be, and can only be, governed through the creative, or marriage, laws. The aim of education must be to instill into the young generation the necessity of making the sexual and creative laws foremost in their life's work, and that breeding children must be made as prime a factor as breeding stock is made the prime factor of the farmer. Here lies the only remedy to insure a long life and to wipe out the many constitutional diseases, of which consumption takes the lead.

The attempt to annihilate the disease consumption by chasing the tubercular bacilli, building sanitariums, and impressing the public with the value of food and nourishment as a cure, will never cure or prevent a single case of consumption. Those who by inheritance are predisposed to this class of disease are almost as sure to die with the disease (under present conditions) as it is sure that the sun sets. I grant that environment will lengthen or shorten the life of any individual more or less, but any one that has an eye-piece to see must have noticed that all the efforts that have ever been attempted have failed to save a single individual from this disease. Millions of instances are on record to prove that the present system of practice in medicine is like politics. People are too prone to be only interested during the campaign or during the sickness of the individual. After the election, or after the death of the patient, a few consoling remarks for the defeated candidate and a few compliments of the good qualities of the youth who died of consumption, all go back to rest again, waiting for the next victim. In short, a deception and graft pure and simple from beginning to end.

I hope no one will expect that I could do justice to this subject in this article any more than to call attention to the fact that it must be made the prime factor if we, as medical men, are honest in the efforts to give the public the only and sure method to diminish these constitutional diseases, especially consumption. To answer what qualities, mental and physical, will endow our offspring with good bodies, strong minds and exalted morals, or what will prevent our offspring from being diseased and vicious, or, on the other hand, impart to them the most favorable physical, intellectual and moral constitutions, is a momentous question. It is the greatest question of all science, and must be made the pillar and founda-

tion of human science, and not ridiculed and ignored, as it is now. If these principles can be so applied as to teach individuals how to select as matrimonial partners those best adapted in connection with themselves, so as to endow their offspring with good constitutions, all the crowns of the earth would be trifles, compared with the value of this kind of knowledge.

The information that these principles will furnish and will enrich those who possess and apply them, will be worth more than if they possessed the whole world. What can compare in value with a splendid child with a good hickory or steel constitution? And, if so possessed in life, it would be impossible to come down with this disease consumption, unless by extreme carelessness or abuse.

Is it not a fact that nearly all of the people who live to an old age, say from seventy-five to one hundred years, and the older they become the greater the percentage of those that will say, "I have never been sick in my life, have never employed a doctor nor taken any medicine?" Again let me repeat, that the creative and marriage laws, and their application, must be put foremost both in public education and in the medical profession.

WHAT TEMPERAMENTS SHOULD, AND WHAT TEMPERAMENTS SHOULD NOT, UNITE IN MARRIAGE.

The first inquiry respecting a prospective companion in marriage should be, Is his or her temperament adapted to mine? Whenever one parent possesses one faculty in a strong degree and the other another, the offspring will inherit the predominant propensities. Extremes of temperament should not unite, as they will produce offspring having still greater extremes. For instance, two persons who have small or weak lungs should not marry, because their issue will inherit lungs still smaller and weaker, and thus be strongly predisposed to consumption. But those whose lungs are deficient in size or strength should marry those whose lungs are large and strong, because their issue being more liable to take on the stronger than the weak organs of parents.

This law applies equally to all physiological organs and conditions which may be deficient. Those with *very* great *defects* should not unite with great opposite extremes. This would be like marrying the lion to the lamb. A quick, active, fiery, excitable, feverish, impulsive temperament should never marry one similarly organized, because each will then still further overcharge the other and produce offspring still more excitable and liable to die very young. Such should marry those of a quiet, calm, easy, loving temperament. Those whose motions are quick, sharp, and speak rapidly, should marry those of the more uniform and steady. When the extreme nervous and excitable marry those equally excitable, their offspring is almost sure to be feeble. A spare person should marry one rather full and plump, and those a little too fleshy marry those rather inclined to be lean. As a rule, light complexion, hair or eyes, should not marry the light, nor yet those very dark, yet should be darker than themselves. The best unions are of those whose temperaments are similar and well balanced. Those who are medium, or about right in any respect, should marry those similarly constituted. This law applies equally well to the various mental organs and characteristics. For instance, a very cautious, careful person should not unite with the same extreme, as the children would be very timid, and so along all through the list a judicious offsetting should be made both in the weak or strong, mental or physical traits. A person should have the knowledge of knowing and understanding their individual self in all respects regarding his or her own physical condition, then it would be more easy to select a partner adapted by nature. This subject, of course, requires study, but the results will well repay even the expenditures of years in obtaining the required knowledge.

330 Harmon Street.

(To be continued.)

The MEDICAL BRIEF has been a pleasure to me, as well as instructive. I send you one dollar to place to my credit.—J. P. CARRINGTON, M. D., Merle, Tex.

[Written for the MEDICAL BRIEF.]

Should We Eat Salt?

BY I. S. WHITE, M. D.,
Violet Grove, Riding Mountain, Manitoba, Canada.

It has been said, "Of the making of books there is no end." It might also be said, "Of the making of fads there is no end;" and one of the most injurious fads of recent date is the "no-salt" fad, or, at least, would be, should it be very extensively adopted. But it is to be hoped the people will have sense enough to allow the fadist the sole privilege of practicing the fad.

Christ said "Salt is good," and for nineteen hundred years the statement has gone unchallenged, but the wisdom of the twentieth century would appear to be far in advance of the wisdom of Christ, for the cry has gone up, "Salt is injurious in its effects upon humanity." "Not only is it unnecessary, but it causes diseases of the skin, rheumatism, and other ailments." "It is an inorganic substance, and can not be converted into animal tissue." "The old argument that 'buffalo and deer seek salt licks' proves nothing." These are some of the arguments used to induce people to give up the use of salt.

Environment goes for nothing. It is too small a thing for a great mind like a fadist's to consider. A place beside the ocean, where salt is blown upon the land with every blast of wind, and a place hundreds of miles inland, where there is no salt whatever in the air, are placed on the same footing. What makes a sea voyage so beneficial? Is it not because the sea air contains salt? If salt is injurious in its effects upon humanity, why is it that nearly all sickly people do not like salt, or use it very sparingly, while the healthy like salt, and use it at every meal?

Some time ago I was called to see a patient that had been troubled with herpes for over two and a half years, and whom four doctors had failed to cure. When I was examining him I said, "You must eat more salt than you are doing." "What!" he exclaimed. "Did my wife tell you I did not like salt?" "No," I replied, "your wife did not tell me you did not like salt, but your skin tells me you do not eat salt." "No," said his wife, "I did not tell the doctor that you did not like salt, but now that it has been mentioned, I will tell him that you cover your food till it is black with pepper, but never a bit of salt, and I have often told you that you should use a little salt." "Well," I replied, "he must dispense with the pepper and use salt instead, for until there is more salt in his system this disease won't cure." And that man carried that disease about three years, that would have been cured in less than three months had he been an eater of salt; or, perhaps, he might never have had the disease, and those four doctors failed to cure the disease simply because they failed to discover the absence of salt in his system.

"The old argument that buffalo and deer seek salt licks proves nothing." I think it proves a great deal. Animals are guided by instinct, and when instinct tells them they need salt, they seek salt licks.

The eating of salt by domestic animals is said to be an acquired habit, but such is not the case. An animal will eat the salt it requires and no more; if it was an acquired habit he would eat it whenever and wherever he had the opportunity, but he does not do so; he only eats it when instinct tells him he needs it.

A cow, if not salted, will go down in her milk when the feed is at its best, and will go up again when supplied with salt; and not only will she give more milk, but she will give richer milk. Cattle could not live in this country without salt. Calves will drop down dead that looked healthy, and full-grown animals will go off their feed and die for lack of salt. And I believe lack of salt is the cause of many cases of heart failure, and if people will give up the use of salt, heart failure will become more prevalent than it now is, for if one of the lower animals will drop down dead for lack of salt, why not the human?

We are told that a breeder of fine horses in the State of New York "never salted his; he believed they were healthier and had finer coats as a result." That may be the case in New York, but they would not long have fine coats in Manitoba if they were not salted. All animals here need salt, and would soon become scrubby if they did not get it. Horses

that are not salted will eat earth or excrementitious matter for the salt that is in it, while regularly-salted horses will not eat such stuff. It pays to salt horses in this country, as they both look better and work better as a result. Yes, "salt is good;" if it can not be converted into animal tissue it makes health, and surely that is worth something. Another writer says, "We have only to point to the condition of scurvy which existed among sailors in the olden days, to realize the terrible results that may arise from its constant use." That salt was the cause of scurvy the sailors fully believed, and the harrowing tales that have been written describing the sufferings they endured would be enough to condemn the use of salt for all time if the diagnosis was correct. But was it? If we consider the circumstances, we shall see. In the "olden days" it took a long time to make a voyage. What could be accomplished in a few days now would take months then. The meat taken on board was all salted, and every member of the medical profession knows that "too much of one thing is good for nothing," no matter how good that thing may be. We all know that the excessive use of meat, whether fresh or salt, will bring disease, and also that without water we can not live. While the sailors had a mixed ration there was no scurvy among them, but when the voyage was extended beyond the expected time through stormy weather, or when they were wrecked; when their water supply ran out and they were reduced to a ration of salt meat and water biscuit, then the terrible sufferings which we have read about took place. I do not remember of having read about scurvy among sailors so long as they had fresh water to drink. It was a case of "Water, water everywhere, but not a drop to drink." Therefore, my diagnosis is that the cause of scurvy among sailors was the want of fresh water and vegetables, aggravated by the constant use of salt meat, which created thirst and made their sufferings greater. That salt is good is undeniable, and so long as you have a good supply of fresh water and vegetables you need not be afraid of the dreaded, but not real, "terrible results that may arise from its constant use." That it has been in constant use for centuries without any terrible results arising therefrom, is lost sight of by the terrified fadist, but perhaps he has an axe to grind, and if he has he will be unable to see anything but the grindstone.

Salt is not only an essential food but a good medicine. It is a mild laxative, a vermifuge and a febrifuge, and if you are searching for a prophylactic, do not pass it by. Five cents' worth of salt will do more good as a prophylactic than twenty dollars' worth of antitoxin or any other blood serum.

Yes, "salt is good." I repeat and indorse the statement, and until our farmers become philanthropists and sow their fields liberally with salt each spring so that the vegetable kingdom may have enough for our wants, we will have to continue to use it as it was used nineteen hundred years ago, when Christ said to his disciples, "Salt is good," "Have salt in yourselves," etc. And it was the inorganic article he was speaking about, for he says: "If the salt have lost his savor, wherewith shall it be salted? it is thenceforth good for nothing but to be cast *out*." When the salt has lost its saltness it is no good, because it is no longer salt; but when it has its proper savor it is good for all animals, man included, and that it contains health-promoting properties there is "no probable possible shadow of doubt; no shadow of doubt whatever."

[Written for the MEDICAL BRIEF.]

The Ambulance Surgeon.

BY E. H. BAILEY, M. D.,
Howell, Mich.

Midst the clamor of life on the city streets,
The clang of the gong on the ambulance beats,
Risking his life as they tear along,
His bugle call sounds from the clamoring gong,
The surgeon clings to the strap o'erhead,
As the wagon reels on its errand sped.
No thought for himself, but the patient ahead,
To serve the wounded, or mourn the dead.
No heroes are these, rough of speech, deft of hand,
As with satchel and grip on the rear step they stand,
No medal awaits at the end of the run,
Just the house surgeon's word, "Too, late," or "Well done."

[Written for the MEDICAL BRIEF.]

The Practice of Homeopathy.

BY N. SISCA, M. D.,
Killarney, Queensland, Australia.

(Continued from page 810.)

VI.

The next thing which invites our attention in connection with homeopathic practice is its unvarying consistency with the principles from which it originated.

We have seen that homeopathy, as defined by homeopathic authors, is a method of drug-therapeutics based on the three principles: *Similia similibus curantur*, small dosage, and the single remedy, and it is those same principles which alone, and to the exclusion of all else, so far as the drug treatment of disease is concerned, have, from its very beginning, governed and still continue to govern, the practice of homeopathy. So that homeopaths seem to have right on their side, when they say that homeopathy has never changed, and that it is the same today as it was when first founded by Hahnemann. New remedies have been added to its *materia medica*, old "provings" have been revised, many untrustworthy symptoms have been expunged, etc., but the principles are still the same, and no remedy whose "pathogenesis" has been duly established has ever been abandoned, or ever found to fail in ameliorating or curing the symptoms which it produced in the provings. And if, at times, a remedy seems to fail, as it so often happens in the hands of not a few allopaths, who like to practice a little homeopathy on the sly, it is because either it had been given for the cure of symptoms not belonging to it, or else it had not been given in the required dose.

Well, does not, should not, this set us thinking, and stimulate our desire to know something of the why and the wherefore of this therapeutical stability, which, to us, must seem little short of phenomenal, and which remains unshaken and unaltered for over a hundred years, quite unaffected by the many changes, which, during the same lapse of time, have taken place in the field of allopathic therapeusis? Can we say as much of the various allopathic theories, which, after holding sway for a time, have eventually disappeared and been forgotten, or of the many drugs which, after a few months' trumpeting and booming, are now heard of no more?

But there is more still. One of the things homeopaths are wont to boast of is that quite a considerable part of their practice is made up of what they facetiously call "allopathic leavings." Have we much that we can boast of in the shape of homeopathic leavings? How many are the patients who leave homeopathy to come or return to us?

We are thus brought face to face with the question: What is it, then, that homeopathy possesses which allopathy does not, and which seems to be at the bottom of the prosperity of homeopathy as a school, and of the success of the homeopath as a physician?

Homeopaths claim that their medicines are quite harmless, and that only in cases in which the dose has been larger than necessary, the attenuation not high enough, or the intervals between the doses not sufficiently long, that only in such cases there is, at times, a certain amount of "aggravation," which, by the by, apart from the fact that it is never dangerous, is rather a welcome sign, showing, they say, that the remedy given is the indicated one, and the aggravation soon disappears on reducing the dose, increasing the attenuation, or prolonging the intervals.

Last, but not least, our friends also claim that their medicines, whether given in the form of tinctures, powders or pilules, are almost never unpleasant to take, which is certainly a great advantage, and which, of course, accounts for most of the favor which homeopathic treatment enjoys in the ailments of children.

Shall we say, then, that the harmlessness and the tastelessness of homeopathic medicines are sufficient to account for the prosperity of homeopathy and for the success of the homeopath? No; because if that had been all that homeopathy had had to rely on, it would have been as dead as the dodo long before now.

What then? Shall we re-echo what Trousseau said, namely, that the success of homeopathy is due to the fact that

the so-called homeopathic medicines are no medicines at all, and that, consequently, under homeopathic treatment nature is left undisturbed in its work of restoring health to the sick? No. Trousseau, like so many others, spoke of homeopathy without knowing what he was speaking about, and at a time when anything was good enough to fling at it; but irresponsible and baseless statements of that sort are not so easily accepted now as they were then.

There is only one thing I know of, which, in my humble opinion, fully and completely accounts for the success of homeopathy, and that is the principle *similia similibus curantur*. And much as it may shock the readers of these, perhaps, rather too candid notes to hear it, I do not feel as if I could contradict a homeopathic writer, who, speaking of it under the name of "law of similars," says: "Founded as it is in nature, and confirmed as it has been by the sure test of a century's bedside experience, the more it is examined, the more it will be found resting on immutable principles." Yes, I have very little doubt in my mind that the principle that a drug in small doses will relieve or cure in the sick the same morbid symptoms which, in large doses, it produces in the healthy, is really something "founded in nature." Otherwise, what else could account to me for the fact that during the last sixteen years or so, on more occasions than I am able to remember, I have, for instance, cured constipation with opium, diarrhea with podophyllum; sweating with pilocarpine; colics with colocynth, lead, dioscor or phosphate of magnesia, as the case required, etc.? What else could explain to me the cases I have seen of weak and debilitated hearts strengthened by aconite, of oxaluria cured by oxalic acid, etc., etc.? If a principle can enable me to obtain results like these and many others, which it would take too much space to mention, how can I help believing, or why should I refuse to believe, that such a principle must respond to and be in harmony with something which does exist in nature, and which, therefore, can not but stamp it with the impress of its own immutability? What a world of possibilities for the therapeutics of the future, if the whole profession were one day to find out, after thorough and unbiased investigation, that there is truth in it? What a triumph, then, for science and humanity!

Be the future, however, what it may, one thing can not fail to concern us at present, and that is, that that same homeopathy, with which we have so persistently refused to have anything to do, which we have thought of as nothing but quackery, and which in season and out of season, our journals and our most prominent men have stigmatized as absurd, has, spite of it all, stood the test of a century's trial, steadily gaining ground and increasing in favor with the public, until things have reached such a stage that journals, which have been traditionally virulent in their attacks against it, condescend now to publish letters from allopathic subscribers suggesting, if not actually advocating, the advisability of pulling down the barriers which, through no justifiable reason have separated, and still continue to separate, the two schools.

(To be continued.)

[Written for the MEDICAL BRIEF.]

Cholera Infantum.

BY M. B. TULLER, M. D.,
Gibbs, Ky.

[III].

The zinc sulpho-carbolate has a slightly astringent property, but its efficacy in cholera infantum is not due to this quality, but to its antiseptic effect on the alimentary canal. No better evidence of this fact, to my mind, can be presented than that of its effect on the lizard's-eggs stool in the case quoted previously. The lizard's eggs were simply coagulated milk, but why the fermenting bacteria made the milk assume that shape is a matter that I, at least, do not comprehend. Nor is it of any practical importance to make such an inquiry. The sole question to the practical man is, What will cure the condition in a mild and permanent manner? The aloes in the prescription given in the November BRIEF had no effect, in my opinion, except that for which the drug was given, viz., to send bile into the bowel.

The zinc salt has the power, in itself, to sedate the stomach in some cases, but is not as effective as calomel.

Astringents, as a rule, are not of permanent use in these cases, but may be a temporarily useful expedient at times.

In those persistent cases of summer diarrhea which do not seem to be sick, but are running around, and there is apt to be carelessness on the part of the parents as to the child's condition, a bismuth combination every two or three hours will prove the most useful and safest checking remedy that I know of, and may be continued indefinitely with no serious effect. Usually it is better to give some antiseptic separately in addition—iodinized emulsion, ten drops every four hours, being very useful in such cases.

It has been recommended that the bowels of a grave case of cholera infantum should be washed with some antiseptic hot solution every two or three hours. A very sick baby, with this disease, will not bear motion well; indeed, the quieter it can be kept the better chance for its recovery, and as considerable motion will be necessary in order to do the work well, the further apart, with safety to the case, the lavage may be, the better the results. Every six to twelve hours, if well done, has been sufficient in my hands. The water must be thrown high up in the colon to be useful; mere rectal washing being *nil* in value. If the necessary instruments are not at hand to give high colonic flushing, lower the child's head and shoulders and elevate the hips, and gravity will do the rest if the syringe tube be well inserted into the rectum. If the returning fluid shows pus flakes and points, boric acid solution should be thrown up in sufficient quantity to insure cleansing. This should be done twice or thrice daily, and has been sufficient in my practice.

Silver nitrate internally is a useful remedy in grave cases of cholera infantum after the vomiting has been subdued, and the diarrhea persists, when there is much rumbling in the bowels and emissions of noisy flatulence during the stool, the child being emaciated and old-looking, one-tenth drop of the tincture or solution hourly until improvement has become manifest, then less frequently, has, in several cases, been very useful in my practice.

Sulphur is another remedy useful in the continuing diarrhea of cholera infantum—may be combined with bismuth, one grain of sulphur to five grains of bismuth hourly. Though nontoxic, sulphur has a habit of producing a diarrhea of its own if given in large doses, but will frequently prove curative in smaller doses.

For recurrent cases after the patient appears nearly well, and the attacks recur in the morning, sulphur again will be found useful, especially if the child appears of a strumous habit. It acts best in combination with salol—one grain of each every one to six hours, as needed.

If hydrocephaloid symptoms become apparent, with cold face and ears, great pallor, rolling of the head, half-shut eyes, moaning, thready pulse, showing profound exhaustion of nerve centers, there are two remedies of vital importance, viz., the red tincture of cinchona and strychnine sulphate. The strychnine should be given one one-thousandth grain every ten or fifteen minutes until the pulse assumes a fuller and rounder character, then as frequently as may be necessary to maintain that character, and the attending physician should, if possible, attend to this matter in person, and not delegate it to the nurse if he would save the case. The cinchona tincture, one drop every five minutes for half an hour, then three to five drops every half to one hour until reaction becomes apparent by the face and ears becoming warmer, the rolling of the head less; the child will fall into a sweet sleep from which it should not be aroused for any purpose. When it wakes the treatment should be continued at longer intervals until it is safe.

As a rule, the diarrhea, at this stage, will take care of itself—will frequently be absent entirely. Feeding, too, is of vital importance at this stage—beef juice at frequent intervals, being the best food, both for its stimulating and nourishing properties. Coffee, too, is useful.

Alcoholics I proscribe entirely in these cases. They are hurtful.

Usually the reaction under the cinchona and strychnine treatment is at-

tended with but little fever. If, however, it should become too active, a few doses of veratrum viride, one-tenth drop half-hourly, will probably bring it within safe limits, when nature will care for the rest. Under this treatment a majority of these cases can be saved.

I want to add a few words differentiating between strychnine sulphate and the arsenate, as I view the two salts. The sulphate is peculiarly adapted to acute exhaustion of nerve centers, and is the drug which should be used in all such cases. The arsenate is better adapted to a general exhausted state which may continue an indefinite period. It is likewise a better systemic tonic and appetizer.

Apis mellifica is another hydrocephaloid remedy, but is not adapted to those desperate cases which call for the treatment above outlined, but to the slower, more continuous cases. If the child dozes continually, and screams out at intervals, with scanty urine or stranguary, frequent morning stools of yellow water, little or no thirst, the apis may make a favorable change in a few hours.

We have now piloted our patient through a terrible storm; we have safely anchored him in the harbor. Still he is like the storm-tossed ship; he is unseaworthy—he does not get well. Out of all immediate danger he certainly is, but there is a sword of Damocles hanging over his head which may fall at any time and cut it off. We have doped and tonicked, and stimulated, and advised a change of scene and air, all to no purpose. We advise fresh air, sunshine, etc., and the baby gets it galore, but does not get well. What is the matter? Inquiry into the family history will generally elicit the fact that there is a predisposition to tubercular malnutrition, and then the light is thrown onto the baby's ailment. Unless forestalled by appropriate medicinal treatment the baby is doomed to some form of tubercular disease, and probable death. For tubercle is not all bacillus, predisposition playing fully as important a part as the possible infection. The remedies now required are salol and sulphur, the lime salts, cod liver oil and prepared oyster shell.

Salol and sulphur—something of a hobby of mine—is indicated in all cases of incipient infantile tuberculosis, especially when the brain is the first, apparently, to become affected, and may be useful at any stage of the disease.

Prepared oyster shell is indicated in those cases where the children are pot-gutted, the glands of the mesentery swollen, constant sweating about the head, especially when asleep. Best given ten grains in twenty teaspoonfuls of hot water, a teaspoonful every two to six hours, as needed.

Calcium phosphate is indicated in those children with large, open fontanelles, open sutures, who are constantly craving salt fat meat. The phosphate cured one case of tubercular meningitis for me after effusion had set up—one-tenth grain hourly until improvement sets in, then as often as may be needed to keep up progress.

Calcium hypophosphite is another drug of great power in these cases; aids in the assimilation of milk and corrects malnutrition generally, and is especially useful in the tubercular diathesis. I give it the preference in all patients, unless the other salts are specially called for—grain one-half to one, four or five times daily until a cure is effected, or a change indicated.

Calcium bromide may be called for in these cases, the indications being the same as for the other lime salts, except that the digestive organs are more frequently involved—one grain every two or three hours.

Cod liver oil, pure and unadulterated, is always indicated in all tubercular predispositions, especially in those in which emaciation is the leading symptom. It is best given by inunction.

I desire to call attention to the brown iodized lime, for the tubercular marasmus following cholera infantum.

I have not yet had sufficient experience with it to say definitely what it will do in such cases, but it is a powerful alterative, and from reason I am of the opinion that it will prove, after further experience, the most useful of all remedies for that fatal malady. The brown iodized lime, internally, and cod liver oil inunctions,

should enable us to cure a possible majority of the cases.

If the ensuing marasmus appears to be entirely due to indigestion, the main reliance must be predigestion and systemic reconstruction.

The arsenates of quinia and strychnia will prove the most serviceable of the tonics, and if anemia be pronounced the iron arsenate may be added.

All the medical sects proper have made useful observations on the treatment of disease, and these observations should be used by the physician regardless of their origin, requiring only that they shall be accurate. This closes my discussion of the subject of cholera infantum.

[Written for the MEDICAL BRIEF.]

Will and Feeling in Physical Therapy.

BY AXEL EMIL GIBSON, M. D.,
Los Angeles. Cal.

(Continued from page 825.)

8. *Will, the Cosmic Dynamo.*—As an organic influence in evolution, however, feeling must be supported by will-power. Will is the forge of universal energy—physical, mental or moral. Left to itself, and not vivified and promoted by the will, feeling would remain a latent, impotent energy. For in the genesis and nature of will lies the elemental power which is rising the entire evolution on its sliding scale of existence, pumping motion, and liberating energy into the numberless forms of life and consciousness. Hence, while in and through feeling the individual associates himself with the idea of, let us say, the beautiful, it is in and through willing that this idea from the state of passive sentiment, is energized and vivified into an organic factor of usefulness in natural and social evolution. And, furthermore, as feeling, in its universal, impersonal character, lies back of every expression of intelligence—instinct, reason, intuition—so willing as a universal factor, is back of the whole vital advance of the cosmic process, the progenitor and promoter of cohesive, magnetic, electric, chemical, vital, desire-to-live forces which manifests, from atom to man, in every progressive face of existence.

But, having been raised into the state of self-consciousness, through the elaborations of the human intellect, and through the attitude taken by the individual in his relation to moral and vital issues, the momentum of will, as a directly active force, is correspondingly increased. As, for instance, the protracted hammering of a piece of iron will, ultimately, raise the temperature of the latter into a white glow, so the strong, determined action of the will in overcoming the selfish promptings of human nature, is capable of raising the co-efficient of that nature into an incredible height of virile, available momentum. For it is not only in molecular physics that friction gives rise to energy—in metaphysics or mentophysics similar phases of action take place. The renewed pull of the soul, or self-conscious Ego, in its effort to lift human nature to ever higher altitudes of intelligence and moral worth against the sense-ward and beast-ward impulses of a yet only partially developed animal nature—results in a moral friction with the subsequent eliciting of the white glow of spiritual life, with its powerful reaction on physical and mental nature in terms of triumphant bodily and intellectual vigor.

For *will* is the parent-force of the world's dynamics, and lies at the root and center of every process of vegetable, animal or mental unfoldment. To unlock these basic force-centers, and set free their inherent potency in terms of individual self-conquest, elevates the value of the entire evolution of the world—on the objective plane as elevating, concrete precepts, on the subjective plane as an injection of pure, vital energy in the general life of humanity. Hence every individual effort of pure, untainted willing, *i. e.*, willing as a deliberate self-conscious effort to elevate the lower tendencies of the mind, by means of moral discipline and sensual restraint—proceeds like a wave of vitalizing, constructive energy, stirring up centers of will-dynamics in every form of conscious existence and thus turning every seriously moral individual into a potential redeemer of himself and others. Feeling gathers material for the construction of character, while

thought directs and constructs; but will power generates the dynamic energy and moral heat which alone can impart momentum to the wheels and levers of universal evolution.

9. Cellular Energy a Mere Form of Will.—In the recognition of will as the central force and factor of health a great step is taken toward the establishment of a philosophically sound and balanced system of therapeutics. It is not, however, a doctrine of to-day or yesterday, that will is the fundamental motor power of the body; it was taught by the last century's German metaphysics, with Arthur Schopenhauer as the chief expounder. "A creative, spontaneous, uncommunicated activity shows itself in every vital manifestation," said this famous thinker, "and the factor in this activity is the will. * * *. Assimilation of foreign substances into blood and tissue, is not the mere act of absorbtion or exudation of organic matter, but the phenomenon is in all cases the fiat of the creative will."

This will-force may or may not be self-conscious or free. But the failure to self-consciously realize the action of a process or function does not in any way contra-indicate its prsence. The vegetative process in the liver, intestines and kidneys keep on their vital exchanges in perfect independence of our knowledge or ignorance in the matter. It is indisputable that every movement presupposes force, *i. e.*, the liberation of a given center of energy into a causative action and reaction—which again implies the active presence of original, interminable motor power associated with intelligent adaption of means to end. And this motor power is will, inherent in every form or expression of animate or inanimate nature, in man or in the universe—the *primum mobile* of all manifested life, determining in plants and animals all the vital processes, secretions, eliminations, etc. And who can fail to see the operation of will power in the convulsions of diseased persons—though the zone of action lies below the ordinary self-consciousness, and hence proceeds in its operations in defiance of volition. For it is a mistake to bind up will with self-consciousness. They two are entirely separate and independent both in quality and expression. We meet the presence of will on any stage of consciousness, spontaneous, uncommunicated—ranging from the sublime heights of human free will down to animal desires, aversions, passions, physiological action, vegetative processes, etc., activities which in order to maintain themselves call forth several activities in the unity of the individual.

Locked up in the cellular centers of the body the potential forces of the general will are set free in every movement of the muscles, providing these movements are associated and directed by self-conscious purposive willing. Hence in every form of healthy growth we recognize the unobstructed exchange of impulse proceeding between the self-centered willing Ego, and the elemental automatic willing in the bodily cell-units.

A microcosm in a macrocosm, man is in himself a universe, and the cells of his body are beings which feel his mental processes and will-impulses in terms of instinctual wants. Hence the difference in consciousness between man himself and the entities that live, move and have their being in his nature, lies in the circumstance that he receives his impulses for growth self-consciously and with power of choice, while the denizens of his bodily universe receive their impulse for growth choiceless, in issues either from his own mind or the mind of universal nature. As every movement of the body (organic or functional) involves an expenditure of cellular energy or "vegetative instinctive willing," it follows that the character of unfoldment and growth, resulting from the movement, depends either on the general-life-and-growth-impelling universal will-impulse, or on the individual will impulses proceeding from man's self-consciousness, in accordance to the extent the one or the other is dominant. Left entirely to the universal will—as in the vegetable and animal kingdoms—the progress is sure but slow, while in the kingdom of man, where individual preferences, unfolding in mental impulses, begin to play upon the gamut of the cellular processes, the result may be doubtful—progressive or retrogressive, constructive or destructive, according to the purity, intelligence and

power of the human will. For only the pure and healthy mind can give a sound and progressive direction to the activities of the body—the impure, fitful, purposeless mind, with its ever shifting desires and notions, interferes with the naturally harmonic cell-activities and causes disturbance and breakdown in the individual's health.

From this point of view it is evident that the human being wields a tremendous power of the condition of his body, and that his physical welfare, as far as his functional life is concerned, trembles on the pivotal point of his will, and the general state of his mind. With his feeling he can render himself responsive to the cosmic intelligence which underlies and sustains all forms of existence; with his thought he may outline the direction of his cellular unfoldment into health and power, while in his will he is endowed with a power by which to impel the human engine, with all its bewildering means of expression, to move in the direction of his motive, and in the momentum of his determination.

The secret of health lies consequently in the development of a pure, firm and vigorous will, ever ready to respond to the call of our moral nature, and always occupying a positive stand in enforcing its mandates. Seriously, dignifiedly, yet affectionate and sweet, we must exert an untiring vigil in our general mode and character of living. We must become attentive to vital issues and learn to distinguish between our needs and luxuries, promptly fulfilling the former and not less promptly disown the latter. Attention and will should accompany every step in our daily routine. It is unworthy of a human being, equipped with thought, will and feeling, to leave his growth and development to the care of chance and instinct, especially since the latter, in the course of unnatural living, has become false and irreliable. So apparently insignificant an act as, for instance, the drinking of a glass of water may be productive of the most different vital results according to the accompanying mental and moral attitude. A mechanical and thoughtless precipitation of the water yields largely only mechanical results—a flushing of the stomach, sometimes even hurtful, as in cases when followed by gastric shock. On the other hand, if the thought of the drinker takes part in the process—by outlining the image of its physiological meaning and usefulness, and the will on the same time gives emphasis and force to the realization—the same amount of water by its cellular response to the cell-action of the body may unlock its latent storage batteries of vital energy and flush the functions, not only mechanically, but vitally, imparting to them incalculable virile powers. The same principle is applicable to eating, walking, resting, breathing, or any phase of general or personal duties. Maintaining a loving and wide-awake interest in the functional activities of our nature, with a living realization of the involved moral purpose, we are able to key our cell-consciousness to our cerebral, or self-consciousness, and thus raise the tenor in the vital exchange of our entire metabolism.

And as our cerebral, self-conscious willing reacts on our functional or cellular willing, the firmness or laxity, vigor or sluggishness, dignity or vulgarity, steadiness of purpose, or looseness and indifference to duty, as exhibited in an individual's attitude and general conduct, react with infallible and fateful surety on his functional or vegetative life, strengthening or weakening, lengthening or shortening, giving health or decay to the quality and quantity of human vicissitudes. We live because we will to live, and grow sick and die because we fail in moral, purposive willing.

10. Moral Healing the Only Legitimate and Permanent Healing.—Hence to enlist successfully the service of will in the field of physical therapeutics, means to submit its powers to the adjusting and qualifying influences of moral discipline. For, like any other curative agent, the action of will is dual, and can be destructive or constructive according to the knowledge by which it is gauged. And as the true knowledge of *will* is fundamentally and intrinsically represented in its inspiring motive, it follows that the only guaranty for an ultimately safe employment of will in physical healing, lies in the unselfishness of its motive, *i. e.*, in the universal usefulness of its

aims and purposes. For, as nature is an expression of cosmic laws, and hence in its action essentially and fundamentally moral, it follows that her constructive and healing powers can be elicited only by the agency of a moral, *i. e.*, unselfish motive, back of which must ever be found the moral will. This, however, does not prevent nature from yielding to the coercion of a selfish and immoral motive, with results in apparent benefits; but the process is artificial, and the benefits thus derived will sooner or later, in course of the inevitable rebound due to a violated equilibrium, dislodge the usurped vital force-current from its undue and immoral manipulation. Hence, while the selfish will may succeed in restoring health to one function it frequently means at the expense of a corresponding vital loss of another.

11. Man, Not the Owner, But the Steward of His Body.—Consequently, to be well means to be moral, which again is equivalent to unselfish and useful service to humanity. The state of a person's general health indicates the sum total of his moral experiences, no matter how remote in his life-history the lines of discipline and character have to be traced to reach their converging point. Every act and gesture, as representing movements and changes in the all-enveloping sea of life, is freighted with meaning and destiny. An individual finds himself at any given moment in a certain place, in a certain attitude, and in possession of certain powers, because the point in time and life, involved at that moment, forms an integral part of his own vital and moral organism—constituting the inevitable and inexorable focal point which is formed by the projection into his moral evolution of impulses of thought, will or feeling, endorsed and sustained by his own self-consciousness. Hence, the importance of analyzing our every-day aims and motives. Does this elaborated, highly seasoned viand, this exhilarating draught from the wine press, this fragrant weed from Havana, or concentrated sweets from the candy factory, really add health and strength to my body; render me more fit and valuable in the service of humanity? If not, have I the moral and vital right to indulge? But more than so—if this indulgence not only fails to promote my usefulness, but positively lessens my capacity to serve—am I not then a conscious malefactor of humanity; a faithless miscreant betraying the confidence and powers vested in my nature and forfeiting the right and privileges to administer to the needs and activities of the thing of thousand wonders—my body? For what is this body but an instrument, which in a mysterious way is trusted in my care to make the best of? I find myself endowed with power to support this instrument, to shelter and protect it, but powerless to generate directly and self-consciously one single cell of its structure. The moment the nourishment passes through the esophageal orifice my self-conscious service is dispensed with, and the impulses governing the vegetative processes in my nature proceed from elsewhere. This, perhaps, may throw light on my position and character in the world-life. A steward of my body, and responsible to some creative, all-governing power for its health, strength and usefulness, I discern plainly that this body is trusted to me, not for my carnal pleasure, but rather for my usefulness. From this point of view any act, solely aiming at personal enjoyment, regardless of its relations to the rest of humanity is, in principle and essence, a downright theft from the general storehouse of universal life. In place of drawing energy and vitality from this source of power to employ it, through loving service, for useful ends, and thus exalt its general potentiality into specific, carefully elaborated and concretely applicable terms of social benefits, the selfish individual, in considering himself only, reverses the process, and while constantly making demands on the general funds of life, refuses to serve as administrator of this life for the welfare of others, spending it all on the altar of his personal gratification. He represents the steward in the ancient parable, whose faithlessness to his master's trust serves as an undying example for all ages and races to show what infamy and curse to existence is contained in the selfish life. He is a worthless parasite on evolution, whose existence, in place of adding health and

powers to the world-life, is a constant drain and dead weight on its progress.

Such a one-sided exchange of life, however, can not continue long. The parasite, in devitalizing life and humanity, ultimately and inevitably devitalizes himself. The stream of life, if not permitted transit through one medium, is compelled to seek a channel for its flow through others. The vital humors of the body gradually dry up; organ after organ fails in its duties, and general weakness followed by functional breakdown, takes hold of the transgressor. As the vital human engine becomes side-tracked and its general momentum gradually lessened, pathological features make their appearance; streams and eddies, disconnected from the vital main, proceed to establish circuits and cellular systems of their own, using the remnants of the great disorganized life to generate noxious growths of descending vital order. Tumors, ulcers, microbic invasions of various kinds, of more or less destructive character, follow the wake of the departing true, evolutionary life. It starts the spectacle of a state or commonwealth breaking down into anarchy under the stress of vital disunion and moral corruption. And thus it may happen, and does happen, that the very effort of an individual to gain health, strength and power, if the motive be selfish and inconsiderate of general human interests, leads with terrible surety, not only to failure in forcing possession of new and undue gains, but in the very loss of powers already attained. For while the bounds of nature's proprietorship may be readily infringed upon, the violations are never condoned. In due time the forces of equity assert themselves, and the intruder, caught in the rebound of the force he himself generated, will be compelled to strike a retreat from his vantage ground of usurped possessions.

Not what I have, but what I am, is my kingdom.

129 South Flower Street.

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We take pleasure in quoting above from the *State Board Journal*, of Atlanta, Ga., October 25, 1906.

[Written for the MEDICAL BRIEF.]

Examination Questions of the University of the State of New York.

Answer any ten of the questions under each heading, but no more. Check the number (✓) of each one of the questions you have answered.

ANATOMY.

TUESDAY—9:15 A. M. TO 12:15 P. M.

1. Give the minute anatomy of muscular tissue.
2. Describe the arytenoid cartilages.
3. Make a classification of the bones of the body, giving an example of each class.
4. Give the origin, insertion, action and nerve supply of *one* of the following muscles: latissimus dorsi, digastric, buccinator.
5. Describe *each* of the following: artery, capillary, vein, lymphatic.
6. Give the origin, course and distribution of the radial artery.
7. Give a general outline of the brachial plexus of nerves.
8. Describe the right auricle and the left ventricle of the heart.
9. Give the gross anatomy of the eyeball.
10. Describe the mammæ.
11. What are the Pacchionian depressions? Where are these depressions found?
12. Describe the oviducts (Fallopian tubes) and give their relations to the ovaries.
13. Describe the inguinal canal.
14. Give the relations of the ductus communis choledochus.
15. Mention in order the structures severed in middle third thigh amputation.

PHYSIOLOGY AND HYGIENE.

TUESDAY—1:15 TO 4:15 P. M.

1. Describe adipose tissue as to (*a*) distribution, (*b*) development, (*c*) function.
2. Describe (*a*) an intestinal villus, (*b*) the valvulæ conniventes. State the functions of each.
3. What mechanical, chemical and thermal changes take place in muscular fiber during contraction?
4. Give a detailed description of the physical and chemical properties of blood plasma.
5. Describe the digestion and the ultimate fate of (*a*) proteids, (*b*) fats, (*c*) carbohydrates.
6. What proportion of the weight of the body is (*a*) water, (*b*) blood?
7. Describe the extrinsic nervous mechanism by which the action of the heart is regulated.
8. Mention the special function of each of the organs of the male generative system.
9. Where and how is urea formed and through what channels is it discharged from the body?
10. Define eye accommodation. Give the mechanism of eye accommodation.
11. Describe the process of (*a*) sewage irrigation, (*b*) sewage filtration. Mention the advantage of each.
12. Enumerate the diseases one attack of which will generally confer immunity from subsequent attacks. How does an immunizing serum prevent disease?
13. State the period of infectiveness of *each* of the following diseases: (*a*) diphtheritis, (*b*) smallpox, (*c*) scarlet fever.
14. What purpose is served in boiling starchy foods? Explain.
15. How do forests benefit public health?

CHEMISTRY.

WEDNESDAY—9:15 A. M. TO 12:15 P. M.

1. Mention the sources of sulfur. Name some of the compounds of sulfur and oxygen.
2. Name *two* principal ingredients (other than water) of (*a*) saliva, (*b*) bile, (*c*) human milk, (*d*) blood serum, (*e*) pancreatic fluid.
3. Define amorphous, polymorphous, isomorphous, crystalline, sublimation.
4. Define and illustrate (*a*) analysis, (*b*) synthesis.
5. Give the composition and describe the preparation of (*a*) cream of tartar, (*b*) Rochelle salt, (*c*) tartar emetic.
6. Distinguish chemically between cane sugar and grape sugar.
7. Name *five* important benzene derivatives.
8. How is static electricity produced and what are its medical uses?
9. Describe a method by which urea may be estimated quantitatively.
10. Give the source of milk sugar. Describe the method of preparation of milk sugar.

11. How may oxyhemoglobin be extracted from the blood? What per cent of iron is found in hemoglobin?

12. What are phenols? How are phenols distinguished from alcohols?

13. Give *two* tests for recognizing albumin in urine.

14. Name a chemical antidote for sulfuric acid poisoning. Explain the action of the antidote named.

15. Name the principal pharmaceutic products obtained from petroleum and state their chief medical and surgical uses.

SURGERY.

WEDNESDAY—1:15 TO 4:15 P. M.

1. Give the treatment of acute prepatellar bursitis (*a*) before suppuration, (*b*) after suppuration.

2. What are enchondromata? Where are they most frequently found?

3. Describe the technic and discuss the value of exploratory puncture in general.

4. State *four* cardinal rules to be observed in the treatment of compound fracture.

5. Classify dislocations of the shoulder. Describe the reduction of *one* of the forms mentioned.

6. Mention the most frequent indication for resection of the knee joint. Describe the operation.

7. Give the etiology, symptoms and diagnosis of flat foot.

8. Describe paracentesis pericardii and give the indications for its employment.

9. Give the indications for prostatectomy.

10. Mention the *four* most common causes of acute intestinal obstruction.

11. Describe fistula in ano. State the relation of fistula in ano to tuberculous disease.

12. Give the varieties of laceration of the female perineum. Describe the technic of operation for repair of one variety.

13. What is keratitis? Give the symptoms and the treatment of keratitis.

14. Describe phlegmonous peritonsillitis and give treatment.

15. Describe glanders. Give the cause and the treatment of glanders.

OBSTETRICS.

THURSDAY—9:15 A. M. TO 12:15 P. M.

1. Give the causes of sterility in the female.

2. State the possible results of gonorrheal infection in the female.

3. Describe the physiologic phenomena of fecundation.

4. Make a diagnosis of ectopic gestation.

5. What limitations in contracted pelvis will permit the birth of a living child? How may the dimensions of the pelvis be ascertained before labor?

6. What is the proper procedure when the head refuses to engage at the pelvic brim?

7. Describe conditions that justify manual extraction of the placenta and give the technic of the operation.

8. Describe the management of threatened abortion.

9. Give the diagnosis and the management of prolapse of the funis.

10. What is toxemia of pregnancy? State its significance and give the indications for treatment.

11. Give the causes, symptoms and treatment of rupture of the uterus during labor.

12. Describe the Porro-Cesarean section and give indications for the operation.

13. Describe a retrodeviation of the uterus and give the appropriate treatment.

14. Describe the Sims position and give directions for the tamponade of the vagina in this position.

15. Give the symptoms of pelvic abscess. In what directions may pelvic abscesses rupture?

PATHOLOGY AND DIAGNOSIS.

THURSDAY—1:15 TO 4:15 P. M.

1. Define infectious, contagious, epidemic, endemic, miasmatic.

2. What tissue changes occur in acute peritonitis?

3. Give the pathologic changes in chronic interstitial nephritis.

4. Describe the bone changes in rachitis.

5. Give the pathology of herpes.

6. Define uremia and give its causes.

7. Give the chemical and the microscopic features of the urine in *one* of the following diseases: (*a*) chronic cystitis, (*b*) chronic parenchymatous nephritis.

8. Name *three* diseases in which there is an increase of leucocytes in the blood.

9. Describe the bacillus of gonorrhea and give a method of demonstrating the same.

10. In what two eruptive fevers are ear complications of frequent occurrence? Describe the ear symptoms in the fevers mentioned.

11. Give the physical signs of a right-sided pleurisy during the stage of effusion.

12. Make a diagnosis of prolapse of the kidney.

13. Differentially diagnose acute appendicitis and acute salpingitis.

14. Make a differential diagnosis of cerebral hemorrhage, alcoholism, uremia and opium poisoning.

15. State the causes of arhythmic pulse.

THERAPEUTICS, PRACTICE AND MATERIA MEDICA.

FRIDAY—9:15 A. M. TO 12:15 P. M.

" * * * in therapeutics, practice and materia medica all the questions submitted to any candidate shall be chosen from those pre-

pared by the board selected by that candidate, and shall be in harmony with the tenets of that school as determined by its State Board of Medical Examiners." Laws of 1893, ch. 661, Sec. 146.

Questions prepared by the Board of Examiners representing the Eclectic Medical Society of the State of New York.

1. Describe the etiology and the treatment of acute rhinitis.
2. What are the therapeutic uses of salix alba?
3. Enumerate the preparations of ammonia, stating the dose of each.
4. Differentiate croupous pneumonitis and laryngismus stridulus.
5. Describe the physiologic action and the therapeutic effects of cactus grandiflorus.
6. Give the etiology and the treatment of acute conjunctivitis.
7. Describe the physiologic action of nitroglycerin.
8. Give the etiology and the treatment of locomotor ataxia.
9. Describe the therapeutic effects of datura stramonium.
10. Give the etiology and the treatment of phlebitis.
11. Describe the physiologic action of lobelia inflata.
12. Describe the onset, symptoms and treatment of cholera infantum.
13. Give the preparations and the therapeutic action of zingiber officinale.
14. What is the therapeutic action of chimaphila umbellata?
15. Describe the etiology and the treatment of scarlatina.

THERAPEUTICS, PRACTICE AND MATERIA MEDICA.

FRIDAY—9:15 A. M TO 12:15 P. M.

Questions prepared by the Board of Examiners representing the Medical Society of the State of New York.

1. Give the therapeutic uses of hydrochloric acid and mention its preparations.
2. Outline the diagnosis of false angina pectoris.
3. Mention *five* official preparations of arsenic.
4. Give the therapeutic uses of the bromids.
5. Give the etiology of acute secondary peritonitis.
6. Mention the sources and the dose of creosote.
7. Give the therapeutic uses of resorcin.
8. Define arthritis deformans. State the present theories of the etiology of arthritis deformans.
9. Mention the official preparations of hydrastis, stating the dose of each.
10. Give the principal therapeutic uses of the salts of silver.
11. Give the etiology and the treatment of gastric ulcer.
12. Define antidote, antagonist. Give an example of each.
13. In what pathologic conditions are motor depressants indicated?
14. Give the etiology and the treatment of bronchial asthma.
15. State the dose of (*a*) fluid extract of ipecac, (*b*) wine of ipecac, (*c*) powder of ipecac and opium.

THERAPEUTICS, PRACTICE AND MATERIA MEDICA.

FRIDAY—9:15 A. M. TO 12:15 P. M.

Questions prepared by the Board of Examiners representing the Homeopathic Medical Society of the State of New York.

1. Give the homeopathic treatment of rheumatism with intense pain, redness and swelling, when the small joints of the lower limbs are first affected and there is a tendency of the disease to travel upward.
2. Name the remedy indicated in a case of aphonia accompanied by a burning and rawness in the throat.
3. Compare hyoscyamus with nux vomica as to symptoms relating to sleep.
4. Compare lycopodium with pulsatilla in diseases of the digestive tract.
5. What are the indications for belladonna in a sore throat?
6. Give the indications for the use of ignatia in neurasthenic conditions.
7. Give the indications for *three* remedies in the treatment of orchitis.
8. When should borax be given for diseases of the mouth?
9. Differentiate the mental symptoms of aconite and nux vomica.
10. Give the indications for calendula in the treatment of wounds.
11. What remedy is best suited to punctured wounds?
12. Give distinguishing indications for arnica, calcarea sulfurica, hepar sulfuris and silicea in the treatment of boils.
13. Compare the symptoms indicating nux vomica, mercurius solubilis, arsenicum and kali hydriodicum in the treatment of nasal catarrh.
14. Name a remedy for nasal catarrh characterized by a bland, yellow nasal discharge and a great deal of sneezing.
15. Give the nasal symptoms of chamomilla.

I send you a dollar, to pay for the good old BRIEF. Can't do without it.—J. S. GIBSON, M. D., Ashby, Mass.

Book Notices.

DISEASES OF THE NOSE, THROAT AND EAR. For Students and Practitioners, in which particular attention is given the Treatment of Diseases by Eclectic Medication. By Kent O. Foltz, M. D., Professor of Ophthalmology, Otology, Rhinology, and Laryngology, in the Eclectic Medical Institute, Cincinnati; Assistant Editor of the *Eclectic Medical Journal;* Author of a Manual on Diseases of the Eye. Illustrated. Cincinnati: The Scudder Brothers Co. Price, $3.50.

In the introduction to this work the author says some things that are worth mentioning. He says that it is the tendency among writers to ignore practically everything but local measures in treating the conditions which are so prevalent in the upper respiratory tract and the structures more or less directly dependent upon this region for their proper functional action. Proper constitutional measures will give more or less permanent relief in practically all but malignant cases. The author says that his experience has been that the selection and administration of drugs from the eclectic standpoint of specific medication, will give more satisfactory results than the generally accepted method of local treatment only. The author has certainly stated the subject clearly and made a clear impression of the important points in diagnosis and the dispensing of the proper remedies.

THORNTON'S POCKET MEDICAL FORMULARY (heretofore known as "The Medical News Pocket Formulary") new (7th) edition, revised to accord with the new U. S. Pharmacopeia, containing more than two thousand prescriptions, with indications for their use. In one leather bound volume. Philadelphia and New York: Lea Brothers & Co., Publishers. Price, $1.50.

The many changes in the new Pharmacopeia, in which some medicinal preparations were nearly doubled in strength and their doses proportionately reduced, while others were weakened and the doses increased, makes the changes in prescriptions comparatively at variance. This work is written to meet these changes, yet the physician will not depend entirely on the prescriptions here given, and he will have a safe guide when he follows its contents. Thornton's Formulary, besides being accurate, trustworthy and up-to-date, affords other advantages which it would be hard to find in other books of its nature. It is a handy volume for the pocket.

THE PRACTICE OF PEDIATRICS. In Original Contributions, by American and English Authors. Edited by Walter Lester Carr, A. M., M. D., Consulting Physician to the French Hospital, New York; to the New York Eye and Ear Infirmary; Visiting Physician to the New York City Children's Hospitals and Schools; Member of the American Pediatric Society; formerly Editor of "Archives of Pediatrics." Illustrated with one hundred and ninety-nine engravings and thirty-two full-page plates. Philadelphia and New York: Lea Brothers & Co. Price, cloth, $6.00; leather, $7.00; half morocco, $8.00.

This is one of the works in "The Practitioner's Library," which is destined to be standard on the subjects included, and at present constitutes works on Gynecology, by Bovée; Obstetrics, by Reuben Peterson (whose portrait appeared in the BRIEF), and the one here noticed on Pediatrics. A complete *modern* library should be had by all practitioners who want practical ideas, as theoretical matters are only hinted at when necessary to subserve the aims of practical views. While the works are sold separately, it would be best to have the entire series, as there must, of necessity, be a close bearing on all.

A DICTIONARY OF NEW MEDICAL TERMS. Including upwards of 38,000 words and many useful tables, being a Supplement to "An Illustrated Dictionary of Medicine, Biology and Allied Sciences." By George M. Gould, A. M., M. D. Based upon recent scientific literature. Philadelphia: P. Blakiston's Son & Co. Price, full sheep or one-half leather, $5.00 (with thumb index, $6.00); half Russia (thumb index), $7.00.

In recent years there have been a multiplication of new words and they are continuously added to the nomenclature of botany, chemistry, medicine, and the allied sciences. Therefore it seems necessary to occasionally add supplementary volumes to those printed, until the demand is created for a new edition of the complete work. We have in this work some of the new terms, although many could be added to make it complete, yet were these added to a new medical dictionary it would have to be enlarged.

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